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THE COLLECTED WORKS

OF

DUGALD STEWART.

VOL. II.

THE COLLECTED WORKS

OF

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ELEMENTS

OF THE

PHILOSOPHY OF THE HUMAN MIND.

VOL. I.

TO WHICH IS PREFIXED,

INTRODUCTION AND PART FIRST

OF THE

OUTLINES OF MORAL PHILOSOPHY

WITH MANY NEW AND IMPORTANT ADDITIONS.

BY

DUGALD STEWART, ESQ.

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ADVERTISEMENT BY THE EDITOR.

THE second, third, and fourth volumes of Stewart's *Collected Works* comprise the three volumes of his *Elements of the Philosophy of the Human Mind*, to which, as a summary, is prefixed the "Introduction" and "Part First, (Of the Intellectual Powers,)" from his *Outlines of Moral Philosophy.* These are the only writings in which the Author has systematically considered, (though, like his predecessors, not perhaps under the most appropriate titles,) the cognitive faculties of mind;—faculties which stand distinctively apart, and prominently foremost. For, if we take the Mental to the exclusion of Material phænomena, that is, the phænomena manifested through the medium of Self-consciousness or Reflection, they naturally divide themselves into three categories or primary genera;—the phænomena of Knowledge or Cognition,—the phænomena of Feeling or of Pleasure and Pain,—and the phænomena of Conation or of Will and Desire. Now, of these classes, the two treatises which constitute the present section of the *Works*, are conversant exclusively with the first,—the phænomena of Cognition; the other classes, the Feelings and the Conations, are treated, as we shall see, in subsequent books.

But to speak particularly of the treatises, one of which is here partially combined with the other.

The *Outlines of Moral Philosophy* were first published in 1793. A second edition, "enlarged," followed in 1801; and a third, "corrected," in 1808. One other edition, in 1818, appeared during the lifetime of the author, but without alteration; and since his death the work has been frequently reprinted. Of the first three editions, there are copies extant with the author's manuscript annotations; which, with a few unimportant exceptions, are all incorporated in the present collection; and distinguished as found in the *first*, in the *second*, or in the *third* edition.

As to the *Elements of the Philosophy of the Human Mind*, the Three Volumes, of which the complete work consists, appeared at considerable intervals; and of each, the original edition was in quarto, the others being in octavo.—The *First* Volume (the earliest of Mr. Stewart's writings) was published so long ago as 1792; a few trifling additions were made in the second edition, 1802; but though often subsequently reprinted, no alteration or amplification,—none certainly of any consequence, has been hitherto incorporated. In the third volume, 1827, a considerable number of intended additions were indeed supplied; but these have only now been entered in their proper places.—The *Second* Volume was first published in 1814, and three subsequent editions (in 1816, 1821, and 1822) appeared during the lifetime of the author,—but without change.—The *Third* Volume dates from 1827; and of this there has been no second edition.

It may be noticed, that the *Outlines of Moral Philosophy* were, in 1846, translated into French, and published in Paris by the celebrated M. Jouffroi; whilst, in 1808, a not less illustrious philosopher, a personal friend too of Mr. Stewart, M. Prévost of Geneva, had done the same by the first volume of the *Elements*. Of the *Elements*, also, the first volume alone, or in connexion with the second, has been frequently reprinted in the United States. The Boston edition of both volumes, which appeared in 1821, translates the quotations not in English. Mr. Stewart, however, seems not to have been satisfied with the version, for he has left, I am informed, eight quarto pages of corrections in his copy of the book. I do not know whether these translations are the same with those given in Wright's London edition of the two volumes, in 1843.

In the present collection,—the fragment of the *Outlines* was printed from the seventh edition, collated with the fourth, and with the first three editions in which the author's annotations are found.—The *First* Volume of the *Elements* was printed from its fourth edition, (1811,) collated with the sixth, (1818;) and the insertions from the Addenda in the third volume are distinguished by square brackets.—The *Second* Volume was printed from the third edition, (1821,) collated with the second, (1816,) and also with the first, in which last Mr. Stewart's annotations were written.—The *Third* Volume was, of course, printed from the one edition; and to this part of the *Elements* nothing has been added by the author.

In regard to what I have myself contributed to this collection,—I may repeat, that I have limited my interference strictly to the province of an editor; and it was manifestly no part of my official duty to meddle with the author's reasonings. Accordingly, there has been nothing added by me, in the view of vindicating, of supplementing or confirming, of qualifying or criticising, Mr. Stewart's doctrines. I have proposed, exclusively, to render this edition the one in which these might be most conveniently studied. To this end, however, it was necessary that the authorities and their citations should be occasionally rectified and filled up; and it was necessary that the reader, let him open the book where he might, should be made at once aware of the special matter under discussion. But this last could only be accomplished by a total change of the plan previously adopted, in what is called the heading of the pages; the running titles now first indicating as minutely as possible the local argument. This pervading improvement has not, however, been overtly distinguished. It should also be noted, that in the Table of Contents and in the relative places of the text, the Editor's supplement of titles has only been ambiguously marked, *as new*, by the brackets. All formal distinction of insertion *by the Editor*, has likewise been omitted in the case of references appended to quotations, and, in general, to all short and merely explicative interpolations. It should perhaps be observed, that Notes referred to from the text, and not by numerals, are all the Editor's; but indeed, any brief insertion, whether in text or note, is usually by him.—As the work proceeded, it was found expedient to pay greater attention to punctuality of reference; and this may account for, if not excuse, any earlier omission.

W. H.

July, 1854.

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OUTLINES OF MORAL PHILOSOPHY.

INTRODUCTION AND PART FIRST.

NOTE.—Of these OUTLINES, (which are, in fact, synopses of two, or more properly of three courses of Lectures,) only the *Introduction*, treating of *Philosophy in general*, and *Part First*, treating of *the Intellectual Powers*, are here given; these being exclusively relative to Mr. Stewart's psychological work, "*Elements of the Philosophy of the Human Mind.*" The other *two Parts*, that regarding *Ethical*, and that regarding *Political* Science, are prefixed to Vol. VI. and to Vol. VIII., the subjects of which they appropriately introduce, as summaries. These three fragments, be it observed, exhaust the whole of the "*Outlines of Moral Philosophy,*" as an independent work; and they are all given in the present edition with considerable additions —*Editor*

PREFACE.

My principal object in this Publication, is to exhibit such a view of the arrangement of my Lectures, as may facilitate the studies of those to whom they are addressed. In a course which employs more than five months, and which necessarily includes a great variety of disquisitions, it is difficult for a hearer to retain a steady idea of the train of thought leading from one subject to another; and, of consequence, the Lectures, by assuming the appearance of detached discourses, are in danger of losing the advantages arising from connexion and method. The following Outlines will, I hope, not only obviate this inconvenience, but will allow me, in future, a greater latitude of illustration and digression, than I could have indulged myself in with propriety, so long as my students were left to investigate the chain of my doctrines by their own reflections.

In the execution of this design, I have attempted, at the same time, to state, under each head, a few fundamental principles, which I was either anxious to impress on the memory of my hearers; or which I thought might be useful to them, by relieving their attention during the discussion of a long or a difficult argument.

The branch of Moral Philosophy which relates to the Principles of Politics being less abstract than the others, I have contented myself with a simple enumeration of the most important articles treated of in the third part of my course. It is scarcely necessary for me to mention, that, in this enumeration, I have not aimed at anything approaching to systematical arrangement; and that, in illustrating the titles it contains, I am obliged, by the term prescribed to my academical labours, to confine myself to very general sketches. As soon as my other engagements allow me sufficient leisure for such an undertaking, I shall attempt a separate Course of Lectures on this very extensive and difficult subject.

With respect to my general plan, those who are in the smallest degree conversant with ethical writers, will perceive, that, in its formation, I have been guided almost entirely by the train of my own speculations. In following the order which these prescribed, I was far from proceeding on the supposition that it was likely to possess, in the opinion of the public, advantages over the arrangements already proposed: but it appeared to me reasonable to think, that a plan resulting from my own habits of thought would probably be better executed in my hands, than any one, how perfect soever, suggested by the views of another.

DUGALD STEWART.

College of Edinburgh,
Nov. 8, 1793.

P.S.—Having, of late, carried into execution (at least in part) the design announced in the foregoing Preface, by a separate Course of Lectures on Political Economy, I have omitted in this edition of my Outlines, the articles which I formerly enumerated under that general title; substituting in their stead a few others, calculated to illustrate the peculiar and intimate connexion between this department of Politics and the more appropriate objects of Ethics. The observations which these articles are meant to introduce, may be useful, at the same time, in preparing the minds of students for disquisitions, the details of which can scarcely fail to appear uninviting to those who are not aware of the important conclusions to which they are subservient.

Nov. 2, 1801.

INTRODUCTION.

[OF PHILOSOPHY IN GENERAL.—Ed.]

SECTION I.—OF THE OBJECT OF PHILOSOPHY, AND THE METHOD OF PROSECUTING PHILOSOPHICAL INQUIRIES.

1. All the different kinds of philosophical inquiry, and all that practical knowledge which guides our conduct in life, presuppose such an established order in the succession of events, as enables us to form conjectures concerning the future, from the observation of the past.

[This order is commonly referred, in the language of modern science, (by a sort of figure or metaphor,) to what are called *the General Laws of Nature;* a mode of speaking extremely convenient for its conciseness, but which suggests to the fancy, an analogy that has misled some authors of eminence. As the order of society results from the general rules prescribed by the Legislator, so the order of the Universe is conceived to result from certain Laws established by the Deity. Thus, it is customary to say, that the fall of heavy bodies towards the Earth's surface, the ebbing and flowing of the sea, and the motions of the planets in their orbits, are consequences of the *Law* of Gravitation. In one sense this is abundantly accurate; but it must not be too literally understood. In those political associations from which the metaphor is borrowed, the laws are addressed to rational and voluntary agents, who are able to comprehend their meaning and to regulate their conduct accordingly.—But in the case of the phenomena exhibited by the material world, the order we see not only implies *intelligence* in its first conception, but *power* to account for its existence; or in other words, it is the same being who enacts and who executes the Law. If the word Law therefore be in such instances literally understood, it must mean a uniform mode of acting prescribed by the Deity to himself; and it has accordingly been explained in this sense by the best writers on Natural Religion; particularly by Dr. Clarke. But, in this part of the course, it is better to consider it merely as the expression of some general fact with respect to the order of the Universe, which has been found to hold in our past experience, and on the continuance of which the constitution of our minds leads us to rely with perfect confidence.

Were it not for this regularity in the course of events, it would be impossible for man to derive benefit from experience; and the powers of observation and memory would be subservient only to the gratification of an idle curiosity.—As things are actually constituted, every fact we collect with respect to the past is a foundation of sagacity and of skill with respect to the future; and, in truth, it is chiefly this application of experience, to anticipate events before they happen, which forms the intellectual superiority of one man above another. An astronomer is able to predict the phenomena of the heavens by reasonings founded on past observations. A chemist or a natural philosopher can predict, not only many of the appearances of nature, but innumerable effects resulting from the artificial situations in which he places her by his experiments. And, in like manner, a studious observer of human affairs acquires a foresight in the conduct of life, that appears supernatural to a careless spectator.]—1*st edit.* B.

2. In the phenomena of the material world, and in many of the phenomena of mind, [more especially in those which depend on the *instincts* of the brutes,]—2*d edit.*, we expect, with the most perfect confidence, that in the same combinations of circumstances the same results will take place; [and it is owing to this expectation (justified by the experience of all ages) that

the instincts of the brutes, as well as the laws of matter, become a source of *power* to man. In both cases, the established order of nature affords abundant evidence that it was chiefly with a view to *our* accommodation and happiness that the arrangements of this world were made.]—*2d edit.* The laws[1] which regulate the course of human affairs, are investigated with much greater difficulty: But, even in this class of events, such a degree of order may frequently be traced, as furnishes general rules of great practical utility; and this order becomes the more apparent, in proportion as we generalize our observations.

3. Our knowledge of the laws of nature is entirely the result of observation and experiment; for there is no instance in which we perceive such a necessary connexion between two successive events, as might enable us to infer the one from the other by reasoning *a priori.* We find, from experience, that certain events are invariably conjoined, so that when we see the one, we expect the other; but our knowledge in such cases extends no farther than the fact.

4. To ascertain those established conjunctions of successive events, which constitute the order of the universe;—to record the phenomena which it exhibits to our observation, and to refer them to their general laws, is the great business of philosophy. Lord Bacon was the first person who was fully aware of the importance of this fundamental truth.[2] The ancients considered philosophy as the science of *causes;* and hence were led to many speculations, to which the human faculties are altogether incompetent.[3]

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[1] [Concerning the use of the word "*law,*" consult Taylor's *Elements of the Civil Law,* p. 121.]—*1st edit.*

[2] ["Hactenus Phænomena cœlorum et maris per vim gravitatis exposui, sed *causam* gravitatis nondum assignavi. . . . Quicquid enim ex phænomenis non deducitur, *Hypothesis* vocanda est; et Hypotheses, seu metaphysicæ seu physicæ in *Philosophia experimentali* locum non habent. In hâc Philosophia propositiones deducuntur ex paænomenis, et redduntur generales per inductionem. Sic impenetrabilitas, mobilitas, et impetus corporum et leges motuum et gravitatis innotuerunt. Et satis est quod *gravitas revera existat, et agat secundum leges a nobis expositas, et ad corporum cœlestium et maris nostri motus omnes sufficiat.*"—Newtoni *Princ.*]—*1st* and *3d editt.*

[3] ["Non sic causa intelligi debet, ut quod *cuique* antecedat id ei causa sit, sed quod cuique *efficienter* antecedat." —Cicero, *De Fato,* c. 15.]—*1st edit.*

5. The ultimate object of philosophical inquiry is the same which every man of plain understanding proposes to himself, when he remarks the events which fall under his observation, with a view to the future regulation of his conduct. The more knowledge of this kind we acquire, the better can we accommodate our plans to the established order of things, and avail ourselves of natural Powers and Agents for accomplishing our purposes.

6. The knowledge of the Philosopher differs from that sagacity which directs uneducated men in the business of life, not in kind, but in degree, and in the manner in which it is acquired. 1*st*, By artificial combinations of circumstances, or, in other words, by *experiments*, he discovers many natural conjunctions which would not have occurred spontaneously to his observation. 2*dly*, By investigating the general Laws of Nature, and by reasoning from them synthetically, he can often trace an established order, where a mere observer of facts would perceive nothing but irregularity. This last process of the mind is more peculiarly dignified with the name of *Philosophy;* and the object of the rules of philosophizing is to explain in what manner it ought to be conducted.[1]

7. The knowledge which is acquired of the course of Nature by mere observation, is extremely limited, and extends only to cases in which the uniformity of the observed phenomena is apparent to our senses. This happens, either when one single law of nature operates separately, or when different laws are always combined together in the same manner. In most instances, however, when different laws are combined, the result varies in every particular case, according to the different circumstances of the combination; and it is only by knowing what the laws are which are concerned in any expected pheno-

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[1] [" *Observationes* fiunt spectando id, quod natura per se ipsam sponte exhibet: hujusmodi sunt observationes pertinentes ad Astronomiam et Historiam Naturalem.

"*Experimenta* fiunt ponendo, per artem, naturam in eas circumstantias, in quibus debeat agere, et nobis ostendere id quod quaerimus, quod pertinet ad Physicam Experimentalem.

" Porro et ferro et igne utimur, ac dissolvimus per vim compagem corporum potissimum in Chemia, et naturam quodammodo velut torquentes cogimus develare sua secreta."—Boscovich, *De Solis ac Lunæ Defectibus.*]—1*st edit.* B.

menon, and by considering in what manner they modify each other's effects, that the result can be predicted.

8. Hence it follows, that the first step in the study of Philosophy is to ascertain the simple and general laws on which the complicated phenomena of the universe depend. Having obtained these laws, we may proceed safely to reason concerning the effect resulting from any given combination of them. In the former instance, we are said to carry on our inquiries in the way of *Analysis;* in the latter in that of *Synthesis.*—[*Scala Ascensoria et Descensoria.*—Bacon.]—*2d edit.*

9. To this method of philosophizing, (which is commonly distinguished by the title of the Method of Induction,) we are indebted for the rapid progress which physical knowledge has made since the time of Lord Bacon. The publication of his writings fixes one of the most important eras in the history of science. Not that the reformation which has since taken place in the plan of philosophical inquiry is to be ascribed entirely to him; for although he did more to forward it than any other individual, yet his genius and writings seem to have been powerfully influenced by the circumstances and character of the age in which he lived; and there can be little doubt that he only accelerated an event which was already prepared by many concurrent causes.

SECT. II.—APPLICATION OF THE FOREGOING PRINCIPLES TO THE PHILOSOPHY OF THE HUMAN MIND.

10. The reformation in the plan of philosophical inquiry, which has taken place during the two last centuries, although not entirely confined to physics, has not extended in the same degree to the other branches of science; as sufficiently appears from the prevailing scepticism with respect to the principles of metaphysics and of moral philosophy. This scepticism can only be corrected, by applying to these subjects the method of induction.

11. As all our knowledge of the material world rests ultimately on facts ascertained by observation, so all our knowledge of the

human mind rests ultimately on facts for which we have the evidence of our own consciousness. An attentive examination of such facts will lead in time to the general principles of the human constitution, and will gradually form a science of mind not inferior in certainty to the science of body. Of this species of investigation, the works of Dr. Reid furnish many valuable examples.

12. The objections which have been stated by some writers of the present age [Priestley] to the conclusions of those metaphysicians who have attempted to apply the method of induction to the science of mind, are perfectly similar to the charge which was at first brought against the Newtonian doctrine of gravitation, as being a revival of the occult qualities of the Aristotelians. In all our inquiries, whether they relate to matter or to mind, the business of philosophy is confined to a reference of particular facts to other facts more general; and our most successful researches must always terminate in the discovery of some law of nature, of which no explanation can be given.

SECT. III.—CAUSES OF THE SLOW PROGRESS OF HUMAN KNOWLEDGE; MORE PARTICULARLY OF THE PHILOSOPHY OF THE HUMAN MIND, AND OF THE SCIENCES IMMEDIATELY CONNECTED WITH IT.[1]

13. Some of the chief of these may be referred to the following heads.

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[1] ["Neque quis nos vanitatis arguat, antequam exitum rei audiat, quæ ad exuendam omnem vanitatem spectat. . . . . Si homines, per tanta annorum spatia viam veram inveniendi et colendi scientias tenuissent, nec tamen ulterius progredi potuissent, audax procul dubio et temeraria foret opinio, posse rem in ulterius provehi. Quod si in *via* ipsa erratum sit, atque hominum opera in iis consumpta in quibus minime oportebat, sequitur ex eo, non in rebus ipsis difficultatem oriri, quæ potestatis nostræ non sunt; sed in intellectu humano, ejusque usu et applicatione; quæ res remedium et medicinam suscepit. Itaque optimum fuerit illos ipsos errores proponere; quot enim fuerint errorum impedimenta in præterito, tot sunt spei argumenta *in futurum*."—Bacon.*]—*1st edit.*

* [*Nov. Org.* lib. i aph. 94.]

(1.) The imperfections of language both as an instrument of thought and a medium of communication. [Credunt homines rationem suam verbis imperare: sed fit etiam ut verba vim suam super intellectum retorqueant.—*Nov. Org.* [lib. i. aph.] lix.]—1*st edit.*

(2.) Mistakes about the proper object of philosophy, and the method of prosecuting philosophical inquiries.

(3.) A disposition to grasp at general principles, without submitting to the previous study of particular facts.

(4.) Difficulty of ascertaining facts,[1] particularly in the sciences immediately connected with the philosophy of the human mind.

(5.) The great part of life which is spent in making useless literary acquisitions.

(6.) Prejudices arising from a reverence for great names, and from the influence of local institutions.

(7.) A predilection for singular or paradoxical opinions.

(8.) A disposition to unlimited scepticism.

[" De nobis ipsis silemus; de re autem quæ agitur petimus, ut homines eam non opinionem, sed opus esse cogitent, ac pro certo habeant, non sectæ nos alicujus aut placiti sed utilitatis et amplitudinis humanæ fundamenta moliri. Deinde ut suis commodis æqui, . . . in commune consulant . . . et ipsi in partem veniant. Præterea ut bene sperent, neque instaurationem nostram, ut quiddam infinitum et ultra mortale, fingant et animo concipiant; cum revera sit infiniti erroris finis et terminus legitimus."—Baco. (*Instauratio Magna*, Præfatio, sub fine.]—1*st edit.*

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[1] [See *Spectator*, No. 521.]—2*d edit.*

OUTLINES OF MORAL PHILOSOPHY.

SUBJECT AND ARRANGEMENT OF THIS TREATISE.

1. THE object of Moral Philosophy is to ascertain the general rules of a wise and virtuous conduct in life, in so far as these rules may be discovered by the unassisted light of nature; that is, by an examination of the principles of the human constitution, and of the circumstances in which man is placed.

2. In examining the principles of our constitution with this view, our inquiries may be arranged under three heads; according as they refer,—

(1.) To the intellectual powers of man;
(2.) To his active and moral powers; and
(3.) To man, considered as the member of a political body.

3. Of these articles, the two first coincide with the common division of human nature into the powers of the Understanding and those of the Will; a division of great antiquity, and which (abstracted from the effects of political institutions) exhausts the whole of Moral Philosophy. As man, however, excepting in his rudest state, has been always found connected with a political community, the principles which lay the foundation of this species of union may be regarded as universal and essential principles of our constitution; and, without an examination of them, it is impossible for us to have a just

idea of our situation in the world, and of the most important duties we owe to our fellow-creatures. This last branch of the subject has, besides, a more intimate connexion with the other two than might at first be apprehended; for it is in the political union, and in the gradual improvement of which it is susceptible, that nature has made a provision for a gradual development of our intellectual and moral powers, and for a proportional enlargement in our capacities of enjoyment; and it is by the particular forms of their political institutions that those opinions and habits which constitute the *Manners* of nations are chiefly determined. How intimately these are connected with the progress and happiness of the race, will appear in the sequel.

4. An investigation of the Pleasures and Pains of which we are susceptible, might furnish the subject of a fourth view of man, considered as a sensitive being. But instead of aiming at so great a degree of analytical distinctness, it will be found more convenient to incorporate this part of the Philosophy of the Human Mind with the other three which have been already defined; connecting whatever remarks may occur on our enjoyments or sufferings, with those intellectual or moral principles, from the exercise of which they respectively arise.

PART I.

OF THE INTELLECTUAL POWERS OF MAN.

The most important of these are comprehended in the following enumeration :—

(1.) Consciousness.
(2.) Powers of external perception.
(3.) Attention.
(4.) Conception.
(5.) Abstraction.
(6.) Association of ideas.
(7.) Memory.

(8.) Imagination.

(9.) Powers of judgment and reasoning.

5. Besides these intellectual faculties, which in some degree are common to the whole species, there are other more complicated powers or capacities, which are gradually formed by particular habits of study or of business. Such are, the Power of Taste; a Genius for Poetry, for Painting, for Music, for Mathematics; with all the various intellectual habits acquired in the different professions of life. To analyze such compounded powers into the more simple and general principles of our nature, forms one of the most interesting subjects of philosophical disquisition.

6. To this branch of our constitution may also be referred those auxiliary faculties and principles, which are essential to our intellectual improvement, or very intimately connected with it; in particular, the faculty of communicating our thoughts by arbitrary signs, and the principle of [sympathetic] imitation.

SECT. I.—CONSCIOUSNESS.

7. This word denotes the immediate knowledge which the mind has of its sensations and thoughts, and, in general, of all its present operations.

8. Of all the present operations of the mind, Consciousness is an inseparable concomitant.

9. The belief with which it is attended has been considered as the most irresistible of any; insomuch that this species of evidence has never been questioned: and yet it rests on the same foundation with every kind of belief to which we are determined by the constitution of our nature.

10. We cannot properly be said to be conscious of our own existence; our knowledge of this fact being necessarily posterior, in the order of time, to the consciousness of those sensations by which it is suggested.

11. From Consciousness and Memory we acquire the notion, and are impressed with a conviction, of our own personal identity.

SECT. II.—OF THE POWERS OF EXTERNAL PERCEPTION.

ARTICLE FIRST.—OF THE LAWS OF PERCEPTION IN THE CASE OF OUR DIFFERENT SENSES.

12. Our external senses are commonly reckoned to be five in number, and the same enumeration has been adopted by the soundest philosophers. An attempt has been made by some writers to resolve all our senses into that of feeling; but this speculation has plainly proceeded from over-refinement, and has no tendency to illustrate the subject of inquiry.

13. Of our five senses there are two, viz., Touch and Taste, in which there must be an immediate application of the object to the organ. In the other three, the object is perceived at a distance by the intervention of a material medium.

14. In order to form an accurate notion of the means by which we acquire our knowledge of things external, it is necessary to attend to the distinct meanings of the words *Sensation* and *Perception.* The former expresses merely that *change in the state of the mind* which is produced by an impression upon an organ of sense ; (of which change we can conceive the mind to be conscious, without any knowledge of external objects;) the latter expresses *the knowledge* we obtain, by means of our sensations, of the qualities of matter. An indiscriminate use of these two words has introduced much confusion into philosophical disquisitions.

SMELLING, TASTING, AND HEARING.

15. The qualities perceived by Smelling, Tasting, and Hearing, are known to us only as the causes of certain sensations; and have therefore been contradistinguished by the name of *Secondary Qualities*, from those of which we learn the nature directly and immediately from the sensations with which they are connected. Of this last kind are Extension and Figure;—to which (along with some others) Philosophers have given the title of the *Primary Qualities* of matter.

16. Abstracting from our other organs of perception, Smell-

ing, Tasting, and Hearing could give us no information concerning external objects.

17. Any one of these senses, however, might suggest to the mind (or furnish the occasions of our forming) the simple ideas or notions of Number, Time, Causation, Existence, Personal Identity, and many others.

TOUCH.

18. The sense of Touch is spread over the whole surface of the body; but the hand is more particularly appropriated to this mode of perception; in consequence, partly of its anatomical structure, and partly of the greater degree of attention we give to the impressions which are made on it.

19. Some of the qualities perceived by this sense are primary, others secondary.—In all its different perceptions, however, there is one common circumstance; that we are not only made acquainted with the existence of some quality or other, but with the particular part of the body to which the external object is applied. It is probably owing to this, that we refer to Touch a variety of sensations which have little or no resemblance to each other; *Heat*, *Itching*, *Pain*, &c. All of these suggest to us the local situation of their exciting causes; and hence we refer them to the same class.—[Another circumstance too conspires with this, that Heat and Cold, in common with the other qualities referred to Touch, are perceived by every part of the body, and not by any particular appropriate organs.] —1*st*, 2*d*, 3*d editt.*

20. The hand is useful in two respects: 1. For examining the properties of bodies, and the laws of the material world; of which properties and laws, none of our other senses, unassisted by that of Touch, could convey to us any accurate knowledge. 2. For the practice of the mechanical arts.—The advantages we derive from it in these respects are so great, that some philosophers, fond of paradoxical opinions, have ascribed to it entirely our intellectual superiority over the brutes.—[As these philosophers have attempted to account, by means of his peculiar organization, for the intellectual superiority of man over the brutes,

so others have gone into the opposite extreme, that of supposing that the peculiarities in his form are the result of his own art and invention.]—1*st edit.* B.

21. The importance of this organ to man sufficiently intimates the intentions of nature with respect to his ordinary posture; and affords a refutation of those theories which attempt to class him with the quadrupeds.

SIGHT.

22. The description of the Eye, and of the manner in which the pencils of rays, proceeding from the different points of a visible object, are collected by the refractive powers of the humours, so as to form a picture on the retina, belongs properly to optics; but there are many questions arising from this subject, which are intimately connected with the philosophy of the human mind, and which optical writers have in vain attempted to resolve on the common principles of their science. Such are all the questions that relate to the most simple and general laws of vision. These laws are *facts* which the optician must assume as the ground-work of his reasoning; not *difficulties* which he is called on to explain.

23. Among the phenomena of vision, more immediately connected with the philosophy of the human mind, the most important are those which depend on the distinction between the *original* and the *acquired* perceptions of sight. Prior to experience, all that we perceive by this sense is superficial extension and figure, with varieties of colour and of illumination. In consequence, however, of a comparison between the perceptions of sight and of touch, the visible appearances of objects, together with the correspondent affections of the eye, become signs of their tangible qualities, and of the distances at which they are placed from the organ. In some cases our judgment proceeds on a variety of these circumstances combined together; and yet, so rapidly is the intellectual process performed, that the perception seems to be perfectly instantaneous.

24. This distinction between the original and the acquired

perception of sight, leads to an explanation of many curious phenomena, which had long puzzled those opticians who confined their attention to the mathematical principles of Dioptrics. But to the student of Moral Philosophy it is interesting, chiefly as it affords a palpable and an acknowledged proof, that the mind may carry on intellectual processes which leave no trace in the memory.

25. Two other celebrated questions concerning vision are intimately connected with the philosophy of the mind, and furnish a favourable opportunity for illustrating the limits which nature has prescribed to our inquiries on the subject of perception. The one relates to our seeing objects erect, by means of inverted images on the retina; the other, to our seeing objects single with two eyes.

26. Some of the qualities perceived by sight are primary, others secondary. Extension and figure belong to the former class; colour and varieties of illumination to the latter.

27. The foregoing article naturally leads the attention to the general accommodation of our animal frame to our intellectual faculties. Under this head the following particulars may furnish matter for useful reflections.

(1.) The local distribution of our organs of sense.

(2.) The adaptation of our perceptive powers to the properties and laws of the material world.

(3.) The relation of the stature and strength of man to the physical arrangements on that planet with which he is connected.

(4.) The versatility of his nature; qualifying him to subsist in every variety of climate.

ARTICLE SECOND.—OF PERCEPTION IN GENERAL.

28. Our notions both of body and of mind are merely relative; that is, we can define the former only by the qualities perceived by our senses, and the latter by the operations of which we are conscious.

29. As the qualities of body bear no resemblance to the operations of mind, we are unavoidably led to consider them as perfectly distinct objects of our knowledge; each of which must be studied in its own peculiar way: the one by attention to the subjects of our Consciousness; the other by attention to the objects of our Perceptions. This is not a hypothesis, but a fact, which is implied in the only notions of body and of mind that we are capable of forming.

30. It appears, however, from the phenomena of perception, and also from those of voluntary motion, that the connexion between body and mind is extremely intimate; and various theories have been proposed to explain the manner in which it is carried on. All these theories relate to a subject placed beyond the reach of our faculties; and concerning which it is impossible for us to ascertain anything, but the laws by which the connexion is regulated.

31. According to the distinction formerly stated between the primary and the secondary qualities of matter (15.), our notions of the latter are merely relative; the sensations which correspond to them informing us of nothing but of the existence of certain unknown causes by which they are produced. What we know of the nature of these causes is the result of subsequent philosophical investigation. The names of secondary qualities are in all languages ambiguous; the same word expressing the sensation, and the unknown cause by which it is excited. Hence the origin of the Cartesian paradox with respect to the non-existence of heat, cold, smell, sound, and colour.

32. The primary qualities of matter, (such, for example, as Extension and Figure,) although perceived in consequence of certain sensations excited in our minds, are always apprehended as external and independent existences; and the notions of them we form have in general no reference to the sensations by which they are suggested. The truth seems to be, that these sensations were intended by nature to perform merely the office of signs, without attracting any notice to themselves; and as they are seldom accompanied either with pleasure or pain, we

acquire an habitual inattention to them in early infancy, which is not easily to be surmounted in our maturer years.

33. As our sensations have no resemblance to the qualities of matter, it has puzzled philosophers to explain in what manner our notions of primary qualities are acquired. It is this difficulty that has given rise to the modern scepticism concerning the non-existence of matter.

34. According to the ancient theory of perception, sensible qualities are perceived by means of images or species propagated from external objects to the mind, by the organs of sense. These images (which since the time of Descartes have been commonly called *Ideas*) were supposed to be resemblances of the sensible qualities; and, like the impression of a seal on wax, to transmit their form without their matter. This hypothesis is now commonly distinguished by the title of the Ideal Theory.

35. On the principles of this theory, Berkeley demonstrated that the existence of matter is impossible: for, if we have no knowledge of anything which does not resemble our ideas or sensations, it follows that we have no knowledge of anything whose existence is independent of our perceptions.

36. If the Ideal Theory be admitted, the foregoing argument against the existence of matter is conclusive; but the theory is unsupported by evidence, and is even inconceivable. That we *have* notions of external qualities perfectly unlike to our sensations, or to anything of which we are immediately conscious, is a *fact;* nor ought we to dispute the reality of what we perceive, because we cannot reconcile this fact with our received philosophical systems.

37. Dr. Reid, who first called the Ideal Theory in question, offers no argument to prove that the material world exists; but considers our belief of it as an ultimate fact in our nature. It rests on the same foundation with our belief of the reality of our sensations, which no man has disputed.

38. Beside the Ideal Theory, other attempts have been made to explain in what manner the communication between mind and matter is carried on, in the case of perception.[1]—Leibnitz's

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[1] [See Gravesande, *Introductio ad Philosophiam*, cap. xvii.]—*2d edit.*

system of pre-established Harmony, taking for granted the impossibility of any immediate connexion between two substances essentially different, represents the human mind and human body as two independent machines, adjusted, at their first formation, to an invariable correspondence with each other, like two clocks made to correspond in all their movements; [the hand of the one pointing invariably to the same hour with that of the other, while the mechanism of each is a *whole within itself*, independent of the influence of any foreign powers.]—*2d edit.* By means of the same hypothesis, he endeavoured to account for the phenomena of Voluntary Motion. [When I *will* (for example) to move my arm, the *motion* is not the consequence of *volition*, but of the mechanism of the body, rendering this effect simultaneous with the corresponding volition. On the other hand, when an impression is made on an organ of sense, the perception which follows is not the PHYSICAL consequence of the impression, but of the mechanism of the mind, which contains within itself the ideas of all things external; being (as Leibnitz expresses it) *a living mirror of the universe*, prepared to bring forward and to exhibit, in their just order and succession, the *images* corresponding to all the different impressions which the organs of sense may receive.]—*2d edit.*

39. The following are the most important general laws of our perceptions, as far as we can infer them from acknowledged facts.

(1.) The object, either immediately, or by means of some material medium, must make an impression on the organ.

(2.) By means of the organ, an impression is made on the nerves.

(3.) By means of the nerves, an impression is made on the brain.

40. With respect, however, to the manner in which this process is carried on, and even with respect to the nature of the changes that take place in the nerves and brain, in the case of perception, we are hitherto ignorant; nor does there seem to be any probability that we shall ever obtain satisfactory informa-

tion. Physiologists, as well as metaphysicians, have, in this instance, too frequently lost sight of the just rules of philosophizing, and have proposed many conjectures which afford no explanation of the phenomena in question, and which have sometimes led to dangerous conclusions.

SECT. III.—OF ATTENTION.

41. It appears, from the acquired perceptions of sight, that a process of thought may be carried on by the mind, without leaving any trace in the memory; and many facts prove, that impressions may be made on our organs of sense, and yet be forgotten next moment. In such cases, our want of recollection is ascribed, even in ordinary conversation, to a want of *attention;* so that it seems to be a principle sufficiently ascertained by common experience, that there is a certain act or exertion of the mind necessary to fix in the memory the thoughts and the perceptions of which we are conscious. This act is one of the simplest of all our intellectual operations, and yet it has been very little noticed by writers on pneumatology.

42. Having established the certainty of the general fact by an induction of particulars, we are entitled, by all the rules of sound philosophizing, to employ it as a principle for the explanation of other phenomena. Many very curious ones, which are commonly referred to other causes, are resolvable into this principle, in a manner equally simple and satisfactory.

SECT. IV.—OF CONCEPTION.

43. The lower animals, as far as we are able to observe, are entirely occupied with their present sensations and perceptions; but man is possessed of a faculty by which he can *represent* to himself sensations of which he has been formerly conscious, and external objects which he has formerly perceived. This faculty may be conveniently distinguished by the name of Conception.

44. The objects of some senses are more easily conceived than those of others; above all, the objects which are perceived by the eye; [and hence it is, that in recalling the sensations of

Hearing, Smelling, Taste, or Feeling, we naturally avail ourselves, as helps to the memory, of the conceptions of the *visible objects* with which these sensations happen to be associated in our own minds.]—*3d edit.* The power of conception, however, may, in the case of all our senses, be greatly improved by experience.

45. It is commonly understood that conception is accompanied with no belief of the existence of its objects; but various considerations render this opinion somewhat doubtful.[1]

46. This faculty has obviously a very intimate connexion with the body. The conception of a pungent taste produces a rush of saliva into the mouth. The conception of an instrument of torture applied to any member of the body, produces a shock similar to what would be occasioned by its actual application.

SECT. V.—OF ABSTRACTION.

47. By our perceptive powers we are made acquainted only with what is *particular* or *individual;* but this description comprehends a very small part of the subjects about which our thoughts are employed. In by far the greater number of instances, our reasonings relate to classes or genera of objects or of events.

48. The process of classification supposes a power of attending to some of the qualities, or circumstances of objects and events, and of withdrawing the attention from the rest. This power is called by logicians *Abstraction.* It may be defined in more general terms, "The faculty by which the mind separates [or *analyzes*] the combinations which are presented to it, in order to simplify the objects of its consideration."

49. An appellative, or a generic word, is a name applicable in common to a number of individuals, which agree with each other in some particulars, and differ in others. By means of such words, we are enabled to reason concerning classes of

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[1] ["At aliud quidpiam, quod huc pertinet, parce admodum, nec pro rei vel subtilitate vel utilitate, inquisitum est; quatenus scilicet (missis affectibus) ipsa imaginatio animæ, vel cogitatio perquam fixa et veluti in fidem quandam exaltata, valeat ad immutandum corpus imaginantis."—Bacon, (*De Augmentis Scientiarum*, lib. iv. c. 1.—*Ed.*)]—1st *edit.* B

objects and classes of events, and to arrive at general conclusions, comprehending under them a multitude of particular truths. The use which is made in algebra of the letters of the alphabet, affords the best illustration of the nature of general reasoning, and of the principles on which it proceeds. These principles were long misunderstood by philosophers, who imagined that a generic word expresses an actual existence distinct from the individuals of which the genus is composed; and that the mind has a faculty of directing its attention to this general IDEA or ESSENCE, without the mediation of language. Hence much of the mystery which still prevails in the abstract sciences.

50. As it is by language alone that we are rendered capable of general reasoning, one of the most valuable branches of logic is that which relates to the use of words. Too little attention has hitherto been bestowed on this subject.

51. It is not, however, sufficient that we guard against error, in ascertaining the truth of our general principles. However accurately just they may be in themselves, considered as speculative maxims; they must always be applied, in actual practice, with the utmost caution. To illustrate the advantages resulting from the proper use of them, and the mistakes produced by their abuse, would form another very important article in a philosophical system of logic.

52. A habit of abstract speculation, uncorrected by experience; and a habit of unenlightened practice, without the aid of general principles; are two opposite extremes, to which we are liable, in the conduct of the understanding. Few men are to be found who have not acquired, in early life, a manifest bias either to the one or to the other.

SECT. VI.—OF THE ASSOCIATION OF IDEAS.

53. The effect of custom in connecting together different thoughts, in such a manner that the one seems spontaneously to follow the other, is one of the most obvious facts with respect to the operations of the mind. To this law of our constitution,

modern philosophers have given the name of the Association of Ideas. Of late, the phrase has been used in a more extensive sense, to denote the tendency which our thoughts have to succeed each other in a regular train; whether the connexion between them be established by custom, or arise from some other associating principle.

54. What the different circumstances are which regulate the succession of our thoughts, it is not possible, perhaps, to enumerate completely. The following are some of the most remarkable: Resemblance, Analogy, Contrariety, Vicinity in Place, Vicinity in Time, Relation of Cause and Effect, Relation of Means and End, Relation of Premises and Conclusion. Whether some of these may not be resolvable into others, is not very material to inquire. The most powerful of all the associating principles is undoubtedly Custom; and it is that which leads to the most important inquiries of a practical nature.

55. Among the associating principles already enumerated, there is an important distinction. The relations on which some of them are founded are *obvious;* and connect our thoughts together, when the attention is not directed particularly to any subject. Other relations are discovered only in consequence of efforts of meditation or study. Of the former kind are the relations of Resemblance and Analogy, of Contrariety, of Vicinity in Time and Place; of the latter, the Relations of Cause and Effect, of Means and End, of Premises and Conclusion. It is owing to this distinction that transitions, which would be highly offensive in philosophical writing, are the most pleasing of any in poetry.—[*Philosophy of the Human Mind, infra,* p. 263, *seq.*]—*2d edit.*

56. In so far as the train of our thoughts is regulated by the laws of Association, it depends on causes of the nature of which we are ignorant, and over which we have no direct or immediate control. At the same time it is evident, that the will has some influence over this part of our constitution. To ascertain the extent and the limits of this influence, is a problem of equal curiosity and importance.

57. We have not a power of summoning up any particular

thought, till that thought first solicit our notice. Among a crowd, however, which present themselves, we can choose and reject. We can detain a particular thought, and thus check the train that would otherwise have taken place.

58. The *indirect* influence of the will over the train of our thoughts is very extensive. It is exerted chiefly in two ways:—1. By an effort of attention, we can check the spontaneous course of our ideas, and give efficacy to those associating principles which prevail in a studious and collected mind. 2. By practice, we can strengthen a particular associating principle to so great a degree, as to acquire a command over a particular class of our ideas.

59. The effect of habit, in subjecting to the will those intellectual processes, which are the foundation of wit,—of the *mechanical* part of poetry, (or, in other words, of the powers of versification and rhyming,)—of poetical fancy,—of invention in the arts and sciences;—and, above all, its effect in forming a talent for extempore elocution, furnish striking illustrations of this last remark.

60. Of all the different parts of our constitution, there is none more interesting to the student of Moral Philosophy than the laws which regulate the Association of Ideas. From the intimate and almost indissoluble combinations which we are thus led to form in infancy and in early youth, may be traced many of our speculative errors; many of our most powerful principles of action; many perversions of our moral judgment; and many of those prejudices which mislead us in the conduct of life. By means of a judicious education, this susceptibility of the infant mind might be rendered subservient not only to moral improvement, but to the enlargement and multiplication of our capacities of enjoyment.

SECT. VII.—OF MEMORY.[1]

61. The theories which attempt to account for the phenomena of Memory, by means of impressions and traces in the

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[1] ["Neque fas esse existimant, ea literis mandare . . . . Neque eos, qui discunt, literis confisos, minus memoriæ studere: quod ferè plerisque accidit, ut

brain, are entirely hypothetical; and throw no light on the subject which they profess to explain.[1]

62. This faculty appears, indeed, to depend much on the state of the body; as may be inferred from the effects of intoxication, disease, and old age. A collection of facts with respect to these effects, as they are diversified in different instances, would form a valuable addition to our knowledge, and might lead to important conclusions.

63. On a superficial view of the subject, the original differences among men, in their capacities of memory, would seem to be immense. But there is reason for thinking that these differences are commonly overrated, and that due allowances are not made for the diversity of appearance which the human mind must necessarily exhibit in this respect, in consequence of the various walks of observation and of study, to which mankind are led, partly by natural propensity, and partly by accidental situation.

64. Independent of any inequalities in the original capacity, there are remarkable *varieties* of memory which lay the foundation of important distinctions among individuals in point of intellectual character.

65. These varieties arise chiefly from the different modes in which the constituent qualities of memory are combined in different instances. The perfection of memory is to unite Susceptibility, Retentiveness, and Readiness; but such a union is rare, and any extraordinary improvement that is bestowed on one of these qualities is generally purchased at the expense of the others.

SECT. VIII.—OF IMAGINATION.

66. The province of Imagination is to select qualities and circumstances from a variety of different objects; and, by combining and disposing these, to form a new creation of its own.

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præsidio literarum, diligentiam in perdiscendo, ac memoria remittant."—Cæsar, *De Bel. Gal.* lib. vi. cap. 14.]—1*st edit.*

[1] [" Non arbitror autem mihi in hoc immorandum, *quid sit quod memoriam faciat*, quanquam plerique imprimi quædam vestigia nostro animo, quæ velut in ceris annulorum signa serventur, existimant."—Quintil. lib. ii. c. 2.]—2*d edit.*

In this appropriated sense of the word, it coincides with what some authors have called *Creative* or *Poetical Imagination.*

67. This power is not a simple faculty, but results from the combination of several different ones. The effort, for example, of the painter, in composing an ideal landscape, implies conception, which enables him to represent to himself those beautiful scenes in nature, out of which his selection is to be made;—Abstraction, which separates the selected materials from the qualities and circumstances connected with them in the memory;—and Judgment or Taste, which selects the materials, and directs their combination.

68. The nature and province of imagination are most clearly exemplified, in the arts which convey pleasure to the mind by new modifications and combinations of beauties originally perceived by the eye. The operations of imagination, in this particular instance, serve to illustrate the intellectual processes, by which the mind deviates from the models presented to it by experience, and forms to itself new and untried objects of pursuit in those analogous but less palpable cases which fall under the consideration of the moralist. It is in consequence of such processes, (which, how little soever they may be attended to, are habitually passing in the thoughts of all men,) that human affairs exhibit so busy and various a scene; tending in one instance, to improvement, and, in another, to decline; according as our notions of excellence and of happiness are just or erroneous.

SECT. IX.—OF JUDGMENT AND REASONING.

69. Judgment is defined by the writers on logic, to be an act of the mind, by which one thing is affirmed or denied of another;—a definition, which, although not unexceptionable, is as good as the nature of the subject admits of.

70. In some cases our judgments are formed as soon as the terms of the proposition are understood; or they result so necessarily from the original constitution of the mind, that we act upon them from our earliest infancy, without ever making them an object of reflection. In other cases, they are formed

in consequence of a process of thought, consisting of different successive steps. Hence, a distinction of *Evidence* into *intuitive* and *deductive.*

I. OF INTUITIVE EVIDENCE.

71. The most important, if not all the different species of intuitive evidence, may be comprehended under the three following heads:—

(1.) The evidence of axioms. [Mathematical and Metaphysical.]

(2.) The evidence of consciousness, of perception, and of memory.

(3.) The evidence of those fundamental laws of human belief, which form an essential part of our constitution; and of which our entire conviction is implied, not only in all speculative reasonings, but in all our conduct as acting beings.—Of this class, is the evidence for our own personal identity; for the existence of the material world; for the continuance of those laws which have been found, in the course of our past experience, to regulate the succession of phenomena. Such truths no man ever thinks of stating to himself in the form of propositions; but all our conduct, and all our reasonings, proceed on the supposition that they are admitted. The belief of them is necessary for the preservation of our animal existence; and it is accordingly coeval with the first operations of the intellect.

72. The attacks of modern sceptics have been chiefly directed against this last description of intuitive truths. They have been called *Principles of Common Sense*, by some late writers who have undertaken to vindicate their authority.[1] The conclusions of these writers are, on the whole, solid and important: but the vagueness of the expression, *Common Sense*, which is generally employed in ordinary discourse, in a sense consider-

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[1] [The preceding sentence Mr. Stewart, in the second edition, replaces by the following clause:—"truths; with which both they and their antagonists have very frequently confounded those necessary truths which I have already called metaphysical axioms. Some late writers, who have undertaken to vindicate their authority, have comprehended them under the title of *Principles of Common Sense.*"]

ably different from that in which it was at first introduced into this controversy, has furnished to their opponents the means of a specious misrepresentation of the doctrine in question; as an attempt to shelter popular prejudices from a free examination, and to institute an appeal from the decisions of philosophy to the voice of the multitude.

II. OF DEDUCTIVE EVIDENCE.

73. Notwithstanding the commonly received doctrine concerning the radical distinction between Intuition and Reasoning, it may be doubted if the one of these powers be not implied in the other. If it be true, that a perfect demonstration is constituted by a chain of reasoning, in which all the links are connected by intuitive evidence, it will follow that the power of reasoning pre-supposes the power of intuition. On the other hand, are not the powers of intuition and of memory sufficient to account for those processes of thought which conduct the mind, by a series of consequences, from premises to a conclusion?

74. "When the mind," says Locke, "perceives the agreement or disagreement of two ideas immediately by themselves, without the intervention of any other, its knowledge may be called *intuitive*. When it cannot so bring its *ideas* together, as by their immediate comparison, and, as it were, juxtaposition, or application one to another, to perceive their agreement or disagreement, it is fain, by the intervention of other ideas, (one, or more, as it happens,) to discover the agreement or disagreement which it searches, and this is what we call *Reasoning*."—According to these definitions, supposing the equality of two lines A and B to be perceived immediately, in consequence of their coincidence, the judgment of the mind is intuitive. Supposing A to coincide with B, and B with C, the relation between A and C is perceived by reasoning.

75. This is certainly not agreeable to common language. The truth of mathematical axioms has always been supposed to be intuitively obvious; and the first of these, according to

Euclid's enumeration, affirms that if A be equal to C, and B to C; A and C are equal.

76. Admitting, however, Locke's definition to be just, it might easily be shewn that the faculty which perceives the relation between A and C is the same with the faculty which perceives the relation between A and B, and between B and C. When the relation of equality between A and B has once been perceived, A and B become different names for the same thing.

77. That the power of reasoning (or, as it has been sometimes called, the Discursive Faculty) is implied in the powers of intuition and memory, appears also from an examination of the structure of syllogisms. It is impossible to conceive an understanding so formed as to perceive the truth of the major and minor propositions, and not to perceive the truth of the conclusion. Indeed, as in this mode of stating an argument the mind is led from universals to particulars, the truth of the conclusion must have been known before the major proposition is formed.

78. Deductive evidence is of two kinds, Demonstrative and Probable. The former relates to necessary, the latter to contingent truths. An accurate examination and comparison of these are of great consequence to all who engage in moral inquiries, but the subject is too extensive to be introduced here.

79. The process of the mind, in discovering media of proof for establishing the truth of doubtful propositions; and also the process by which we bring new truths to light, is properly called Invention. In this power remarkable inequalities are observable among different individuals. In a capacity of understanding the reasonings of others, all men seem to be nearly on a level.

80. The word *Logic* is used by modern writers in two very different senses:—1. To express the scholastic art of syllogizing, which is commonly referred to Aristotle for its inventor. 2. To express that branch of the philosophy of the human mind, which has for its object to guard us against the various

errors to which we are liable in the exercise of our reasoning powers; and to assist and direct the inventive faculty in the investigation of truth. The general aim of these two sorts of logic is the same, and they differ only in the justness of the principles on which they proceed.—The inutility of the former is now pretty generally acknowledged; and it deserves our attention chiefly as a curious article in the history of science. The other is still in its infancy; but many important views have already been opened into the subject by Lord Bacon and others.

SECT. X.—OF INTELLECTUAL POWERS OR CAPACITIES FORMED BY PARTICULAR HABITS OF STUDY OR OF BUSINESS.

81. The varieties of intellectual character among men, result from the various possible combinations and modifications of faculties, which, in greater or less degrees, are common to the whole species. Supposing these faculties to be originally the same in every individual, infinite diversities of genius would necessarily arise from the different situations into which men are thrown by the accidents of human life.

82. The intellectual habits that are formed by the pursuits of science or of literature, are widely different from those which are produced by the active engagements of business. There are other peculiarities of a more delicate nature, which originate from particular studies, and which distinguish the different classes of literary men from each other. The metaphysician, the mathematician, the antiquary, the poet, the critic, strengthen by their respective pursuits particular faculties and principles, while they suffer others to remain without due cultivation.

83. An examination of the effects produced on the understanding by different sciences, and by different active professions, would suggest many important rules for the improvement and enlargement of the mind, and for preserving all its various powers in that just proportion to each other which constitutes the perfection of our intellectual nature.

84. Quickness, Acuteness, Penetration, Presence of Mind, Good Sense, Sagacity, Comprehension, Profoundness,—all ex-

press particular characteristics of intellect by which individuals are distinguished from each other; and which present a subject of observation and study, not more interesting to the philosopher, than to those who take an active concern in the business of the world.—The mental defects to which these qualities are respectively opposed, are no less deserving of attention.

85. Nearly connected with these last speculations, are those philosophical inquiries which have for their object, to analyze into their constituent principles, the different kinds of intellectual ability which are displayed in the different sciences and arts. Such inquiries not only open a curious and interesting field of disquisition, but have an obvious tendency to lessen that blind admiration of original genius, which is one of the chief obstacles to the improvement of the arts, and to the progress of knowledge.

86. Among the intellectual powers, gradually formed by a particular application of our original faculties, the power of Taste is one of the most important. It was formerly treated by metaphysicians as a simple and uncompounded principle of our constitution; and, notwithstanding the ingenious attempts lately made to analyze it into its component elements, it continues still to be considered by some as an ultimate fact in the constitution of the human mind. The extensive influence it possesses in such a state of society as ours, not only over the pursuits of those who devote themselves to the study of Literature and of the Fine Arts, but over the enjoyments of every individual who partakes of the general refinement of manners, might justify the allotment of a separate article to an illustration of the intellectual process by which it is formed. Such a digression, however, would necessarily encroach on other discussions still more closely connected with the object of this First Part of the Course; and the intimate relation between the Power of Taste and our Moral Principles will furnish another and a more convenient opportunity of resuming the speculation.

87. It is sufficient, at present, to remark, that although the groundwork of Taste must be laid in the original qualities of the mind, yet this power is the slow result of experience, habitually and attentively conversant with a particular class of agreeable objects. The instantaneous rapidity of its decisions gives it sometimes the appearance of an immediate perception, —and hence the name which it has borrowed, in the languages of modern Europe, from one of the external senses. The use made in the French tongue of the word *Tact*, to denote that delicate sense of propriety which enables a man to *feel his way* in the difficult intercourse of polished society, seems to have been suggested by similar considerations. This power, as well as the other, is evidently an acquired one; and a comparison of the two might be useful for illustrating the nature and *genesis* of both.[1]

SECT. XI.—OF CERTAIN AUXILIARY FACULTIES AND PRINCIPLES ESSENTIAL TO OUR INTELLECTUAL IMPROVEMENT, OR INTIMATELY CONNECTED WITH IT.

88. The form and posture of the human body, and its various organs of perception, have an obvious reference to man's rational nature, and are beautifully fitted to encourage and facilitate his intellectual improvement. A similar remark may be extended to many other parts of our constitution, both external and internal; but there are two which more particularly claim our attention; the power of expressing our thoughts by Language, and the principle of Imitation.

I. OF LANGUAGE.

89. The connexion of this subject with that of the foregoing

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[1] [Mr. Stewart has under this Section, but without special reference, annotated the following:—

"What we call *Taste* is a kind of *extempore* judgment; it is a settled habit of distinguishing, without staying to attend to rules or ratiocination, and arises from long use and experience." —*Thoughts on various Subjects* by Hughes, see Duncombe's *Letters*, vol. iii. p. 48 of Appendix.

See Reynolds' *Discourses*, p. 302.]—*1st edit.*

sections is sufficiently obvious. It is to the use of artificial signs (§ 49.) that we are indebted for all our general conclusions; and without it, our knowledge would have been entirely limited to individuals. It is also to the use of artificial signs that we are indebted for all that part of our information which is not the immediate result of our own personal experience; and for that transmission of intellectual acquisitions from one race to another, which lays the foundation of the progressive improvement of the species.

90. The formation of an artificial language, (as Dr. Reid has remarked,) presupposes the use of natural signs. These consist in certain expressions of the countenance, certain gestures of the body, and certain tones of the voice.

91. There seems to be, in man, a power of interpreting instinctively some of these expressions. This, indeed, has been disputed of late; but various considerations might be mentioned, which justify the common opinion upon the subject, when stated with certain corrections and limitations.

92. As ideas multiply, the imperfections of natural language are felt; and men find it necessary to invent artificial signs, of which the meaning is fixed by mutual agreement. In proportion as artificial language improves, the language of nature declines; insomuch, that in such a state of society as ours, it requires a great deal of reflection and study to recover the use of it. This study is, in a considerable degree, the foundation of the arts both of the actor and of the orator.

93. Artificial signs may be divided into those which are addressed to the eye, and those which are addressed to the ear. The latter have formed, among all nations, the ordinary medium of intellectual communication.

94. As we have no record of the steps by which any of the languages spoken among men have arisen, some writers have employed their ingenuity, in tracing, from the faculties of the mind, the origin of the different parts of speech, and in illustrating the gradual progress of language, resulting from the general progress of society. Such conjectural speculations concerning the natural advances of the Species, in any particular

line of improvement, may be distinguished by the title of *Theoretical Histories.*

95. The imperfections of those languages which have originated from popular use, have suggested to some philosophers the idea of a language expressly calculated for the purposes of science. The failure of the attempts hitherto made on this subject, are not decisive against the practicability of such a project.

96. The art of Writing is an important step in the history of language, and a powerful aid to the intellectual progress of the species.

97. The advantages with which it is accompanied, are wonderfully extended by the art of Printing, which may be justly regarded, not only as the happiest of all expedients for facilitating the intellectual commerce of mankind, but as one of the most important events that have occurred in the history of human affairs.

II. OF THE PRINCIPLE OF [SYMPATHETIC] IMITATION.

98. Whenever we see any expression, or, in general, any change, in the countenance of another person, we have a tendency to assume the same expression or the same change, in our own countenance. Every man is sensible of this, when he looks at another in a rage, in a fit of laughter, or in a deep melancholy.—Nor is it the *visible* appearance alone of others that we have a disposition to imitate. We copy instinctively the voices of our companions, their tones, their accents, and their modes of pronunciation.

99. This tendency in our nature to imitation is attended with important advantages. It seems to be by means of it, that children acquire the use of speech; and that they learn insensibly to model their habits on the appearance and manners of those with whom they are familiarly conversant.

100. As it is in early life that the principle of imitation is of greatest use to us, so it is in infancy that we have the strongest tendency to indulge it. It is of this natural tendency, which all men have in some degree, that mimics avail themselves;

till, by repeated efforts, they acquire a power of carrying it farther than they could have done originally; or, rather, perhaps they only contrive to retain through life a faculty which, in the case of most men, disappears after the period of childhood.

101. The contagious nature of insanity, of convulsions, of hysteric disorders, of panics, and of all the different kinds of enthusiasm, seems to have an intimate connexion with the principle of imitation. To this class of facts, an important addition has lately been made in the course of the philosophical inquiries which took rise at Paris, in consequence of the cures pretended to be effected by means of animal magnetism.

SECT. XII.—OF THE INTELLECTUAL FACULTIES OF MAN, AS CONTRASTED WITH THE INSTINCTS OF THE BRUTES.

102. That the brutes are under the more immediate guidance of nature, while man is left to regulate, to a great degree, his own destiny, by the exercise of his reason, is a fact too obvious to admit of dispute. In what manner, indeed, nature operates, in this instance, we are perfectly ignorant; but nothing can be more certain than this, that it is not by a deliberate choice, analogous to what we experience in ourselves, that the lower animals are determined to the pursuit of particular ends; nor by any process analogous to our reason, that they combine means in order to attain them.

103. To that unknown principle which guides the operations of the brutes, we give the name of Instinct. It is distinguished from Art by two circumstances:—1. By the uniformity with which it proceeds, in all individuals of the same species; and, 2. By the unerring certainty with which it performs its office, prior to all experience.[1]

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[1] [*Art* is defined by Lord Bacon to be "a proper disposal of the things of nature by human thought and experience, so as to make them answer the designs and uses of mankind."—[*Advancement of Learning.*] It may be defined more concisely to be the adjustment of *means* to accomplish a desired *end.* According to this idea of Art, it is necessarily the result of reason and invention, and presupposes experience and observation, without which it is impossible for human ingenuity to form one single conclusion concerning the order of nature, or the means to be employed for producing any physical effect.]—*2d edit.*

104. But although we do not, in such cases, ascribe art or reason to the brutes, the operations of instinct plainly indicate intelligence in that Being by whom they were formed; and who, by adapting their constitutions so beautifully to the laws of the material world, has evinced a unity of design, which proves that all the different parts of the universe, animate and inanimate, are the workmanship of the same Author.

105. The wisdom of nature, as displayed in the instincts of animals, is more particularly conspicuous in those tribes which associate in political communities;—as the bee and the beaver. Here we see animals who, considered individually, discover but a small degree of sagacity, conspiring together, under the guidance of a blind impulse, in the accomplishment of effects, astonishing by their magnitude, and by the complicated ingenuity they exhibit.

106. Animals, however, are left to make some small acquisitions by experience; as sufficiently appears, in certain tribes, from the sagacity of the old, when contrasted with the ignorance of the young; and from the effects which may be produced on many of them by discipline and education.

107. In what, then, does the difference between man and the brutes consist? Do their faculties differ from each other in degree only; or is there an essential distinction between the rational and the animal natures?

108. The French philosophers of the Cartesian school adopted the latter opinion; and even carried it so far, as to consider the brutes as mere machines. Their successors have, in general, gone into the opposite extreme; and have employed their ingenuity in attempting to account for the boasted superiority of man, by accidental circumstances in his bodily organization, or in his external condition.

109. In opposition to these doctrines of modern Materialists, a great variety of considerations prove,—that, in respect of our intellectual and moral principles, our nature does not admit of comparison with that of any other inhabitant of this globe; the difference between our constitution and theirs, being a differ-

ence not in degree, but in kind. Perhaps this is the single instance, in which that regular gradation, which we everywhere else observe in the universe, fails entirely.—The subject is by far too extensive to be treated in these *Outlines*.[1]

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[1] [Consult on this article, *An Account of the Regular Gradation in Man*, &c., by Charles White of Manchester. 1799.]—*2d edit.*

The Outlines of Moral Philosophy, Part Second, ("Of the Active and of the Moral Powers of Man,") will be found at the commencement of Vol. vi.—*Ed.*

ELEMENTS

OF THE

PHILOSOPHY OF THE HUMAN MIND.

PART FIRST

TO THE

REVEREND THOMAS REID, D.D.,

PROFESSOR OF MORAL PHILOSOPHY IN THE UNIVERSITY OF GLASGOW,

THIS WORK

IS INSCRIBED, IN TESTIMONY OF THE RESPECT AND AFFECTION

OF

THE AUTHOR.

ADVERTISEMENT.

[TO THE FIRST VOLUME OF THE ELEMENTS OF THE PHILOSOPHY OF THE HUMAN MIND.]

In various parts of the following work, references are made to subsequent speculations, which are not contained in it. These speculations it is my intention to resume at some future period: but when I consider the extent of my subject, and the many accidents which may divert me from the prosecution of it, I cannot venture so far as to announce, in the title-page of this volume, any promise of a future publication.

Some additional chapters are still wanting, to complete the Analysis of the Intellectual Powers. After finishing this, the course of my inquiries would lead me to treat, in the second place, of Man considered as an Active and Moral being; and, thirdly, of Man considered as the member of a Political Society.

College of Edinburgh,
March 13, 1792.

INTRODUCTION.

PART FIRST.

OF THE NATURE AND OBJECT OF THE PHILOSOPHY OF THE HUMAN MIND.

THE prejudice which is commonly entertained against metaphysical speculations, seems to arise chiefly from two causes: First, from an apprehension that the subjects about which they are employed are placed beyond the reach of the human faculties; and, secondly, from a belief that these subjects have no relation to the business of life.

The frivolous and absurd discussions which abound in the writings of most metaphysical authors, afford but too many arguments in justification of these opinions; and if such discussions were to be admitted as a fair specimen of what the human mind is able to accomplish in this department of science, the contempt into which it has fallen of late, might with justice be regarded as no inconsiderable evidence of the progress which true philosophy has made in the present age. Among the various subjects of inquiry, however, which, in consequence of the vague use of language, are comprehended under the general title of Metaphysics, there are some which are essentially distinguished from the rest, both by the degree of evidence which accompanies their principles, and by the relation which they bear to the useful sciences and arts: and it has unfortunately happened that these have shared in that general discredit into which the other branches of metaphysics have justly fallen. To this circumstance is probably to be ascribed the little progress which has hitherto been made in the PHILOSOPHY OF THE HUMAN MIND; a science so interesting in its nature, and so important in its applications, that it could scarcely have failed, in these inquisitive and enlightened times, to have excited a very general attention, if it had not accidentally been classed, in the public opinion, with the vain and unprofitable disquisitions of the schoolmen.

In order to obviate these misapprehensions with respect to the subject of the following work, I have thought it proper, in this preliminary chapter, first, to explain the Nature of the truths which I propose to investigate; and, secondly, to point out some of the more important Applications of which they are susceptible. In stating these preliminary observations, I may perhaps appear to some to be minute and tedious; but this fault, I am confident, will be readily pardoned by those who have studied with care the principles of that science of which I am to treat; and who are anxious to remove the prejudices which have, in a great measure, excluded it from the modern systems of education. In the progress of my work, I flatter myself that I shall not often have occasion to solicit the indulgence of my readers for an unnecessary diffuseness.

The notions we annex to the words Matter and Mind, as is well remarked by Dr. Reid,[1] are merely relative. If I am asked, what I mean by Matter? I can only explain myself by saying, it is that which is extended, figured, coloured, moveable, hard or soft, rough or smooth, hot or cold;—that is, I can define it in no other way than by enumerating its sensible qualities. It is not matter, or body, which I perceive by my senses; but only extension, figure, colour, and certain other qualities, which the constitution of my nature leads me to refer to something which is extended, figured, and coloured. The case is precisely similar with respect to Mind. We are not immediately conscious of its existence, but we are conscious of sensation, thought, and voli-

[1] *Essays on the Active Powers of Man*, pp. 8, 9.

tion; operations which imply the existence of something which feels, thinks, and wills. Every man, too, is impressed with an irresistible conviction, that all these sensations, thoughts, and volitions belong to one and the same being; to that being which he calls *himself;* a being which he is led, by the constitution of his nature, to consider as something distinct from his body, and as not liable to be impaired by the loss or mutilation of any of his organs.

From these considerations it appears, that we have the same evidence for the existence of mind that we have for the existence of body; nay, if there be any difference between the two cases, that we have stronger evidence for it; inasmuch as the one is suggested to us by the subjects of our own consciousness, and the other merely by the objects of our perceptions: and in this light, undoubtedly, the fact would appear to every person, were it not that, from our earliest years, the attention is engrossed with the qualities and laws of matter, an acquaintance with which is absolutely necessary for the preservation of our animal existence. Hence it is, that these phenomena occupy our thoughts more than those of mind; that we are perpetually tempted to explain the latter by the analogy of the former, and even to endeavour to refer them to the same general laws; and that we acquire habits of inattention to the subjects of our consciousness, too strong to be afterwards surmounted without the most persevering industry.

If the foregoing observations be well founded, they establish the distinction between mind and matter without any long process of metaphysical reasoning:[1] for if our notions of both are merely relative; if we know the one only by such sensible qualities as extension, figure, and solidity; and the other by such operations as sensation, thought, and volition, we are certainly entitled to say, that matter and mind, considered as objects of human study, are essentially different; the science of the former resting ultimately on the phenomena exhibited to our senses; that of the latter, on the phenomena of which we are conscious. Instead, therefore, of objecting to the scheme of materialism, that its conclusions are false, it would be more accurate to say, that its aim is unphilosophical. It proceeds on a misapprehension of the proper object of science; the difficulty which it professes to remove being manifestly placed beyond the reach of our faculties. Surely, when we attempt to explain the nature of that principle which feels and thinks and wills, by saying that it is a material substance, or that it is the result of material organization, we impose on ourselves by words; forgetting, that matter as well as mind is known to us by its qualities and attributes alone, and that we are totally ignorant of the essence of either.[1]

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[1] See Note A.

As all our knowledge of the material world is derived from the information of our senses, natural philosophers have, in modern times, wisely abandoned to metaphysicians all speculations concerning the nature of that substance of which it is composed; concerning the possibility or impossibility of its being created; concerning the efficient causes of the changes which take place in it; and even concerning the reality of its existence, independent of that of percipient beings: and have confined themselves to the humbler province of observing the phenomena it exhibits, and of ascertaining their general laws. By pursuing this plan steadily, they have, in the course of the two last centuries, formed a body of science, which not only does honour to the human understanding, but has had a most important influence on the practical arts of life.—This experimental philosophy no one now is in danger of confounding with the metaphysical speculations already mentioned. Of the importance of these, as a separate branch of study, it is possible that some may think more favourably than others; but they are obviously different in their nature, from the investigations of physics, and it is of the utmost consequence to the evidence of this last science, that its principles should not be blended with those of the former.

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[1] Some metaphysicians, who appear to admit the truth of the foregoing reasoning, have farther urged that, for any thing we can prove to the contrary, it is possible that the unknown substance which has the qualities of extension, figure, and colour, may be the same with the unknown substance which has the attributes of feeling, thinking, and willing. But besides that this is only an hypothesis, which amounts to nothing more than a mere possibility, even if it were true, it would no more be proper to say of mind, that it is material, than to say of body, that it is spiritual.

A similar distinction takes place among the questions which may be stated relative to the human mind.—Whether it be extended or unextended; whether or not it has any relation to place; and (if it has) whether it resides in the brain, or be spread over the body by diffusion, are questions perfectly analogous to those which Metaphysiçians have started on the subject of matter. It is unnecessary to inquire at present, whether or not they admit of answer. It is sufficient for my purpose to remark, that they are as widely and obviously different from the view which I propose to take of the human mind in the following work, as the reveries of Berkeley concerning the non-existence of the material world, are from the conclusions of Newton and his followers.—It is farther evident that the metaphysical opinions which we may happen to have formed concerning the nature either of body or of mind, and the efficient causes by which their phenomena are produced, have no necessary connexion with our inquiries concerning the laws, according to which these phenomena take place.—Whether (for example) the cause of gravitation be material or immaterial, is a point about which two Newtonians may differ, while they agree perfectly in their physical opinions. It is sufficient, if both admit the general fact that bodies tend to approach each other, with a force varying with their mutual distance, according to a certain law. In like manner, in the study of the human mind, the conclusions to which we are led, by a careful examination of the phenomena it exhibits, have no necessary connexion with our opinions concerning its nature and essence. —That when two subjects of thought, for instance, have been repeatedly presented to the mind in conjunction, the one has a tendency to suggest the other, is a fact of which I can no more doubt, than of anything for which I have the evidence of my senses; and it is plainly a fact totally unconnected with any hypothesis concerning the nature of the soul, and which will be as readily admitted by the materialist as by the Berkeleian.

Notwithstanding, however, the reality and importance of this distinction, it has not hitherto been sufficiently attended to by the philosophers who have treated of the human mind. Dr. Reid is perhaps the only one who has perceived it clearly, or at least who has kept it steadily in view in all his inquiries. In the writings, indeed, of several other modern metaphysicians, we meet with a variety of important and well-ascertained facts; but, in general, these facts are blended with speculations upon subjects which are placed beyond the reach of the human faculties.—It is this mixture of fact and of hypothesis, which has brought the philosophy of mind into some degree of discredit; nor will ever its real value be generally acknowledged, till the distinction I have endeavoured to illustrate be understood and attended to, by those who speculate on the subject. By confining their attention to the sensible qualities of body, and to the sensible phenomena it exhibits, we know what discoveries natural philosophers have made; and if the labours of metaphysicians shall ever be rewarded with similar success, it can only be by attentive and patient reflection on the subjects of their own consciousness.

I cannot help taking this opportunity of remarking, on the other hand, that if physical inquirers should think of again employing themselves in speculations about the nature of matter, instead of attempting to ascertain its sensible properties and laws, (and of late there seems to be such a tendency among some of the followers of Boscovich,) they will soon involve themselves in an inextricable labyrinth, and the first principles of physics will be rendered as mysterious and chimerical, as the pneumatology of the schoolmen.

The little progress which has hitherto been made in the philosophy of mind, will not appear surprising to those who have attended to the history of natural knowledge. It is only since the time of Lord Bacon, that the study of it has been prosecuted with any degree of success, or that the proper method of conducting it has been generally understood. There is even some reason for doubting, from the crude speculations on medical and chemical subjects which are daily offered to the public, whether it be yet understood so completely as is commonly imagined; and whether a fuller illustration of the rules of philosophizing, than Bacon or his followers have given, might not be useful, even to physical inquirers.

When we reflect, in this manner, on the shortness of the period during which natural philosophy has been successfully cultivated; and, at the same time, consider how open to our examination the laws of matter are, in comparison of those which regulate the phenomena of thought, we shall neither be disposed to wonder, that the philosophy of mind should still remain in its infancy, nor be discouraged in our hopes concerning its future progress. The excellent models of this species of investigation, which the writings of Dr. Reid exhibit, give us ground to expect that the time is not far distant, when it shall assume that rank which it is entitled to hold among the sciences.

It would probably contribute much to accelerate the progress of the philosophy of mind, if a distinct explanation were given of its nature and object; and if some general rules were laid down, with respect to the proper method of conducting the study of it. To this subject, however, which is of sufficient extent to furnish matter for a separate work, I cannot attempt to do justice at present; and shall therefore confine myself to the illustration of a few fundamental principles, which it will be of essential importance for us to keep in view in the following inquiries.

Upon a slight attention to the operations of our own minds, they appear to be so complicated, and so infinitely diversified, that it seems to be impossible to reduce them to any general laws. In consequence, however, of a more accurate examination, the prospect clears up; and the phenomena, which appeared at first to be too various for our comprehension, are found to be the result of a comparatively small number of simple and uncompounded faculties, or of simple and uncompounded principles of action. These faculties and principles are the general laws of our constitution, and hold the same place in the philosophy of mind, that the general laws we investigate in physics, hold in that branch of science. In both cases, the laws which nature has established, are to be investigated only by an examination of facts; and in both cases, a knowledge of these laws leads to an explanation of an infinite number of phenomena.

In the investigation of physical laws, it is well known, that our inquiries must always terminate in some general fact, of which no account can be given, but that such is the constitution of nature. After we have established, for example, from the astronomical phenomena, the universality of the law of gravitation, it may still be asked, whether this law implies the constant agency of mind; and (upon the supposition that it does) whether it be probable that the Deity always operates immediately, or by means of subordinate instruments? But these questions, however curious, do not fall under the province of the natural philosopher. It is sufficient for his purpose, if the universality of the fact be admitted.

The case is exactly the same in the philosophy of mind. When we have once ascertained a general fact, such as the various laws which regulate the association of ideas, or the dependence of memory on that effort of the mind which we call Attention; it is all we ought to aim at, in this branch of science. If we proceed no farther than facts for which we have the evidence of our own consciousness, our conclusions will be no less certain than those in physics: but if our curiosity leads us to attempt an explanation of the association of ideas, by certain supposed vibrations, or other changes, in the state of the brain; or to explain memory, by means of supposed impressions and traces in the sensorium; we evidently blend a collection of important and well-ascertained truths, with principles which rest wholly on conjecture.[1]

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[1] There is indeed one view of the connexion between Mind and Matter, which is perfectly agreeable to the just rules of philosophy. The object of this is, to ascertain the laws which regulate their union, without attempting to explain in what manner they are united. —[See *Philosophical Essays*, (*Works*, vol. v. p. 8.)]

Lord Bacon was, I believe, the first who gave a distinct idea of this sort of speculation; and I do not know that much progress has yet been made in it. In his books *De Augmentis Scientiarum*, The observations which have been now stated, with respect to the proper limits of philosophical curiosity, have too frequently escaped the attention of speculative men, in all the different departments of science. In none of these, however, has this inattention produced such a variety of errors and absurdities, as in the science of mind; a subject to which, till of late, it does not seem to have been suspected, that the general rules of philosophizing are applicable. The strange mixture of fact and hypothesis, which the greater part of metaphysical inquiries exhibit, had led almost universally to a belief, that it is only a very faint and doubtful light which human reason can ever expect to throw on this dark, but interesting, field of speculation.

Besides this inattention to the proper limits of philosophical inquiry, other sources of error, from which the science of physics is entirely exempted, have contributed to retard the progress of the philosophy of mind. Of these, the most im-

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a variety of subjects are enumerated, in order to illustrate its nature; and, undoubtedly, most of these are in a high degree curious and important. The following list comprehends the chief of those he has mentioned, with the addition of several others, recommended to the consideration of Philosophers and of Medical Inquirers, by the late Dr. [John] Gregory. See his *Lectures on the Duties and Qualifications of a Physician.*

1. The doctrine of the preservation and improvement of the different senses.
2. The history of the power and influence of imagination.
3. The history of the several species of enthusiasm.
4. The history of the various circumstances in parents, that have an influence on conception, and the constitution and characters of their children.
5. The history of dreams.
6. The history of the laws of custom and habit.
7. The history of the effects of music, and of such other things as operate on the mind and body, in consequence of impressions made on the senses.
8. The history of natural signs and language, comprehending the doctrine of physiognomy and of outward gesture.
9. The history of the power and laws of the principle of imitation.

To this list various other subjects might be added; particularly, the history of the laws of memory, in so far as they appear to be connected with the state of the body; and the history of the different species of madness.

This view of the connexion between Mind and Matter does not fall properly under the plan of the following work; in which my leading object is to ascertain the principles of our nature, in so far as they can be discovered by attention to the subjects of our own consciousness: and to apply these principles to explain the phenomena arising from them. Various incidental remarks, however, will occur in the course of our inquiries, tending to illustrate some of the subjects comprehended in the foregoing enumeration.

portant proceed from that disposition which is so natural to every person at the commencement of his philosophical pursuits, to explain intellectual and moral phenomena by the analogy of the material world.

I before took notice of those habits of inattention to the subjects of our consciousness, which take their rise in that period of our lives when we are necessarily employed in acquiring a knowledge of the properties and laws of matter. In consequence of this early familiarity with the phenomena of the material world, they appear to us less mysterious than those of mind; and we are apt to think that we have advanced one step in explaining the latter, when we can point out some analogy between them and the former. It is owing to the same circumstance, that we have scarcely any appropriated language with respect to mind, and that the words which express its different operations, are almost all borrowed from the objects of our senses. It must, however, appear manifest, upon a very little reflection, that as the two subjects are essentially distinct, and as each of them has its peculiar laws, the analogies we are pleased to fancy between them, can be of no use in illustrating either; and that it is no less unphilosophical to attempt an explanation of perception, or of the association of ideas, upon mechanical principles, than it would be to explain the phenomena of gravitation, by supposing, as some of the ancients did, the particles of matter to be animated with principles of motion; or to explain the chemical phenomena of elective attractions, by supposing the substances among which they are observed, to be endowed with thought and volition. The analogy of matter, therefore, can be of no use in the inquiries which form the object of the following work; but, on the contrary, is to be guarded against, as one of the principal sources of the errors to which we are liable.

Among the different philosophers who have speculated concerning the human mind, very few indeed can be mentioned, who have at all times been able to guard against analogical theories. At the same time, it must be acknowledged, that since the publication of Descartes' writings, there has been a gradual, and, on the whole, a very remarkable improvement in this branch of science. One striking proof of this is, the contrast between the metaphysical speculations of some of the most eminent philosophers in England at the end of the last century, and those which we find in the systems, however imperfect, of the present age. Would any writer now offer to the world, such conclusions with respect to the mind as are contained in the two following passages from Locke and Newton? " Habits says Locke,* " seem to be but trains of motion in the animal spirits, which, once set a-going, continue in the same steps they had been used to, which, by often treading, are worn into a smooth path."[1] And Newton himself has proposed the following query, concerning the manner in which the mind perceives external objects. " Is not," says he, " the sensorium of animals the place where the sentient substance is present, and to which the sensible species of things are brought, through the nerves and brain, that they may be perceived by the mind present in that place?" In the course of the following Essays, I shall have occasion to quote various other passages from later writers, in which an attempt is made to explain the other phenomena of mind upon similar principles.

It is however much to be regretted, that even since the period when philosophers began to adopt a more rational plan of inquiry with respect to such subjects, they have been obliged to spend so much of their time in clearing away the rubbish collected by their predecessors. This, indeed, was a preliminary step, which the state of the science, and the conclusions to which it had led, rendered absolutely necessary; for however important the positive advantages may be, which are to be expected from its future progress, they are by no means so essential to human improvement and happiness, as a satisfactory refutation of that sceptical philosophy, which had struck at the root of all knowledge and all belief. Such a refutation seems to have been the principal object which Dr. Reid proposed to himself in his metaphysical inquiries; and to this object his labours have been directed with so much ability, candour, and perseverance, that unless future sceptics should occupy a ground very different from that of their predecessors, it is not likely that the controversy will ever be renewed. The rubbish being now removed, and the foundations laid, it is time to begin the superstructure. The progress which I have made in it is, I am sensible, very inconsiderable; yet I flatter myself, that the little I have done will be sufficient to illustrate the importance of the study, and to recommend the subjects of which I am to treat to the attention of others.

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* [*Essay*, B. II. ch. xxxiii. § 6.]

[1] [This theory, with respect to *Habits*, is very closely copied from Malebranche. " Il faut remarquer que les esprits ne trouvent pas toujours les chemins, par où ils doivent passer, assez ouverts et assez libres; et que cela fait, que nous avons de la difficulté à remuer, par exemple, les doigts avec la vitesse qui est nécessaire pour jouer des instrumens de musique, ou les muscles qui servent à la prononciation, pour prononcer les mots d'une langue étrangère; mais que peu à peu les esprits animaux, par leur cours continuel, ouvrent et applanissent ces chemins, ensorte qu'avec le tems, ils ne trouvent plus de résistance. Car c'est dans la facilité que les esprits animaux ont de passer dans les membres de notre corps, que consistent les habitudes."—*Rech. de la Vérité*, liv. ii. chap. 5.]

After the remarks which I have now made, the reader will not be surprised to find, that I have studiously avoided the consideration of those questions which have been agitated in the present age, between the patrons of the sceptical philosophy and their opponents. These controversies have, in truth, no peculiar connexion with the inquiries on which I am to enter. It is, indeed, only by an examination of the principles of our nature, that they can be brought to a satisfactory conclusion; but supposing them to remain undecided, our sceptical doubts concerning the certainty of human knowledge, would no more affect the philosophy of mind, than they would affect any of the branches of physics; nor would our doubts concerning even the existence of mind, affect this branch of science, any more than the doubts of the Berkeleian, concerning the existence of matter, affect his opinions in natural philosophy.

To what purposes the philosophy of the human mind, according to the view which I propose to take of it, is subservient, I shall endeavour to explain, at some length, in the following section.

PART SECOND.

SECT. I.—OF THE UTILITY OF THE PHILOSOPHY OF THE HUMAN MIND.

It has been often remarked, that there is a mutual connexion between the different arts and sciences; and that the improvements which are made in one branch of human knowledge, frequently throw light on others, to which it has apparently a very remote relation. The modern discoveries in astronomy and in pure mathematics, have contributed to bring the art of navigation to a degree of perfection formerly unknown. The rapid progress which has been lately made in astronomy, anatomy, and botany, has been chiefly owing to the aid which these sciences have received from the art of the optician.

Although, however, the different departments of science and of art mutually reflect light on each other, it is not always necessary either for the philosopher or the artist to aim at the acquisition of general knowledge. Both of them may safely take many principles for granted, without being able to demonstrate their truth. A seaman, though ignorant of mathematics, may apply, with correctness and dexterity, the rules for finding the longitude: an astronomer or a botanist, though ignorant of optics, may avail himself of the use of the telescope or the microscope.

These observations are daily exemplified in the case of the artist, who has seldom either inclination or leisure to speculate concerning the principles of his art. It is rarely, however, we meet with a man of science who has confined his studies wholly to one branch of knowledge. That curiosity which he has been accustomed to indulge in the course of his favourite pursuit, will naturally extend itself to every remarkable object which falls under his observation; and can scarcely fail to be a source of perpetual dissatisfaction to his mind, till it has been so far gratified as to enable him to explain all the various phenomena which his professional habits are every day presenting to his view.

As every particular science is in this manner connected with others, to which it naturally directs the attention, so all the pursuits of life, whether they terminate in speculation or action, are connected with that general science which has the human mind for its object. The powers of the understanding are instruments which all men employ; and his curiosity must be small indeed, who passes through life in a total ignorance of faculties which his wants and necessities force him habitually to exercise, and which so remarkably distinguish man from the lower animals. The active principles of our nature, which, by their various modifications and combinations, give rise to all the moral differences among men, are fitted in a still higher degree, if possible, to interest those who are either disposed to reflect on their own characters, or to observe with attention the characters of others. The phenomena resulting from these faculties and principles of the mind, are every moment soliciting our notice; and open to our examination a field of discovery as inexhaustible as the phenomena of the material world, and exhibiting not less striking marks of divine wisdom.

While all the sciences, and all the pursuits of life, have this common tendency to lead our inquiries to the philosophy of human nature, this last branch of knowledge borrows its principles from no other science whatever. Hence there is something in the study of it which is peculiarly gratifying to a reflecting and inquisitive mind; and something in the conclusions to which it leads, on which the mind rests with peculiar satisfaction. Till once our opinions are in some degree fixed with respect to it, we abandon ourselves with reluctance to particular scientific investigations; and, on the other hand, a general knowledge of such of its principles as are most fitted to excite the curiosity, not only prepares us for engaging in other pursuits with more liberal and comprehensive views, but leaves us at liberty to prosecute them with a more undivided and concentrated attention.

It is not, however, merely as a subject of speculative curiosity that the principles of the human mind deserve a careful examination. The advantages to be expected from a successful analysis of it are various; and some of them of such importance, as to render it astonishing that, amidst all the success with which the subordinate sciences have been cultivated, this, which comprehends the principles of all of them, should be still suffered to remain in its infancy.

I shall endeavour to illustrate a few of these advantages, beginning with what appears to me to be the most important of any,—the light which a philosophical analysis of the principles of the mind would necessarily throw on the subjects of intellectual and moral education.

The most essential objects of education are the two following: First, to cultivate all the various principles of our nature, both speculative and active, in such a manner as to bring them to the greatest perfection of which they are susceptible; and, secondly, by watching over the impressions and associations which the mind receives in early life, to secure it against the influence of prevailing errors, and, as far as possible, to engage its prepossessions on the side of truth. It is only upon a philosophical analysis of the mind, that a systematical plan can be founded for the accomplishment of either of these purposes.

There are few individuals whose education has been conducted in every respect with attention and judgment. Almost every man of reflection is conscious, when he arrives at maturity, of many defects in his mental powers; and of many inconvenient habits, which might have been prevented or remedied in his infancy or youth. Such a consciousness is the first step towards improvement; and the person who feels it, if he is possessed of resolution and steadiness, will not scruple to begin, even in advanced years, a new course of education for himself. The degree of reflection and observation, indeed, which is necessary for this purpose, cannot be expected from any one at a very early period of life, as these are the last powers of the mind which unfold themselves; but it is never too late to think of the improvement of our faculties; and much progress may be made in the art of applying them successfully to their proper objects, or in obviating the inconveniences resulting from their imperfection, not only in manhood, but in old age.

It is not, however, to the mistakes of our early instructors that all our intellectual defects are to be ascribed. There is no profession or pursuit which has not habits peculiar to itself, and which does not leave some powers of the mind dormant, while it exercises and improves the rest. If we wish, therefore, to cultivate the mind to the extent of its capacity, we must not rest satisfied with that employment which its faculties receive from our particular situation in life. It is not in the awkward and professional form of a mechanic, who has strengthened particular muscles of his body by the habits of his trade, that we are to look for the perfection of our animal nature: neither is it among men of confined pursuits, whether speculative or active, that we are to expect to find the human mind in its highest state of cultivation. A variety of exercises is necessary to preserve the animal frame in vigour and beauty; and a variety of those occupations which literature and science afford, added to a promiscuous intercourse with the world, in the habits of conversation and business, is no less necessary for the improvement of the understanding. I acknowledge, that there are some professions, in which a man of very confined acquisitions may arrive at the first eminence; and in which he will perhaps be the more likely to excel, the more he has concentrated the whole force of his mind to one particular object. But such a person, however distinguished in his own sphere, is educated merely to be a literary artisan; and neither attains the perfection nor the happiness of his nature. "That education only can be considered as complete and generous, which," in the language of Milton, "fits a man to perform justly, skilfully, and magnanimously, all the offices, both private and public, of peace and of war."[1]

I hope it will not be supposed, from the foregoing observations, that they are meant to recommend an indiscriminate attention to all the objects of speculation and of action. Nothing can be more evident than the necessity of limiting the field of our exertion, if we wish to benefit society by our labours. But it is perfectly consistent with the most intense application to our favourite pursuit, to cultivate that general acquaintance with letters and with the world, which may be sufficient to enlarge the mind, and to preserve it from any danger of contracting the pedantry of a particular profession. In many cases (as was already remarked) the sciences reflect light on each other; and the general acquisitions which we have made in other pursuits, may furnish us with useful helps for the farther prosecution of our own. But even in those instances in which the case is otherwise, and in which these liberal accomplishments must be purchased by the sacrifice of a part of our professional eminence, the acquisition of them will amply repay any loss we may sustain. It ought not to be the leading object of any one, to become an eminent metaphysician, mathematician, or poet; but to render himself happy as an individual, and an agreeable, a respectable, and a useful member of society. A man who loses his sight improves the sensibility of his touch; but who would consent, for such a recompense, to part with the pleasures which he receives from the eye?

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[1] Tractate of Education.

It is almost unnecessary for me to remark, how much individuals would be assisted in the proper and liberal culture of the mind, if they were previously led to take a comprehensive survey of human nature in all its parts; of its various faculties, and powers, and sources of enjoyment; and of the effects which are produced on these principles by particular situations. It is such a knowledge alone of the capacities of the mind, that can enable a person to judge of his own acquisitions; and to employ the most effectual means for supplying his defects, and removing his inconvenient habits. Without some degree of it, every man is in danger of contracting bad habits before he is aware; and of suffering some of his powers to go to decay for want of proper exercise.

If the business of early education were more thoroughly and more generally understood, it would be less necessary for individuals, when they arrive at maturity, to form plans of improvement for themselves. But education never can be systematically directed to its proper objects, till we have obtained, not only an accurate analysis of the general principles of our nature, and an account of the most important laws which regulate their operation; but an explanation of the various modifications and combinations of these principles, which produce that diversity of talents, genius, and character, we observe among men. To instruct youth in the languages and in the sciences, is comparatively of little importance, if we are inattentive to the habits they acquire; and are not careful in giving to all their different faculties, and all their different principles of action, a proper degree of employment. Abstracting entirely from the culture of their moral powers, how extensive and difficult is the business of conducting their intellectual improvement! To watch over the associations which they form in their tender years; to give them early habits of mental activity; to rouse their curiosity, and to direct it to proper objects; to exercise their ingenuity and invention; to cultivate in their minds a turn for speculation, and at the same time preserve their attention alive to the objects around them; to awaken their sensibilities to the beauties of nature, and to inspire them with a relish for intellectual enjoyment;—these form but a part of the business of education; and yet the execution even of this part requires an acquaintance with the general principles of our nature, which seldom falls to the share of those to whom the instruction of youth is commonly intrusted.—Nor will such a theoretical knowledge of the human mind, as I have now described, be always sufficient in practice. An uncommon degree of sagacity is frequently requisite, in order to accommodate general rules to particular tempers and characters. In whatever way we choose to account for it, whether by original organization, or by the operation of moral causes, in very early infancy; no fact can be more undeniable, than that there are important differences discernible in the minds of children, previous to that period at which, in general, their intellectual education commences. There is, too, a certain hereditary character, (whether resulting from physical constitution, or caught from imitation and the influence of situation,) which appears remarkably in particular families. One race, for a succession of generations, is distinguished by a genius for the abstract sciences, while it is deficient in vivacity, in imagination, and in taste: another is no less distinguished for wit, and gaiety, and fancy; while it appears incapable of patient attention, or of profound research. The system of education which is proper to be adopted in particular cases, ought, undoubtedly, to have some reference to these circumstances; and to be calculated, as much as possible, to develop and to cherish those intellectual and active principles, in which a natural deficiency is most to be apprehended. Montesquieu, and other speculative politicians, have insisted much on the reference which education and laws should have to climate. I shall not take upon me to say, how far their conclusions on this subject are just; but I am fully persuaded, that there is a foundation in philosophy, and good sense, for accommodating, at a very early period of life, the education of individuals to those particular turns of mind, to which, from hereditary propensities, or from moral situation, they may be presumed to have a natural tendency.

There are few subjects more hackneyed than that of education; and yet there is none, upon which the opinions of the world are still more divided. Nor is this surprising; for most of those who have speculated concerning it, have confined their attention chiefly to incidental questions about the comparative advantages of public or private instruction, or the utility of particular languages or sciences; without attempting a previous examination of those faculties and principles of the mind, which it is the great object of education to improve. Many excellent detached observations, indeed, both on the intellectual and moral powers, are to be collected from the writings of ancient and modern authors; but I do not know, that in any language an attempt has been made to analyze and illustrate the principles of human nature, in order to lay a philosophical foundation for their proper culture.

I have even heard some very ingenious and intelligent men dispute the propriety of so systematical a plan of instruction. The most successful and splendid exertions, both in the sciences and arts, (it has been frequently remarked,) have been made by individuals, in whose minds the seeds of genius were allowed to shoot up, wild and free; while, from the most careful and skilful tuition, seldom any thing results above mediocrity. I shall not, at present, enter into any discussions with respect to the certainty of the fact on which this opinion is founded. Supposing the fact to be completely established, it must still be remembered, that originality of genius does not always imply vigour and comprehensiveness, and liberality of mind; and that it is desirable only, in so far as it is compatible with these more valuable qualities. I already hinted, that there are some pursuits, in which, as they require the exertion only of a small number of our faculties, an individual, who has a natural turn for them, will be more likely to distinguish himself, by being suffered to follow his original bias, than if his attention were distracted by a more liberal course of study. But wherever such men are to be found, they must be considered, on the most favourable supposition, as having sacrificed, to a certain degree, the perfection and the happiness of their nature, to the amusement or instruction of others. It is, too, in times of general darkness and barbarism, that what is commonly called originality of genius most frequently appears: and surely the great aim of an enlightened and benevolent philosophy, is not to rear a small number of individuals, who may be regarded as prodigies in an ignorant and admiring age, but to diffuse, as widely as possible, that degree of cultivation which may enable the bulk of a people to possess all the intellectual and moral improvement of which their nature is susceptible. "Original genius," says Voltaire, "occurs but seldom in a nation where the literary taste is formed. The number of cultivated minds which there abound, like the trees in a thick and flourishing forest, prevent any single individual from rearing his head far above the rest. Where trade is in few hands, we meet with a small number of overgrown fortunes in the midst of a general poverty: in proportion as it extends, opulence becomes general, and great fortunes rare. It is, precisely, because there is at present much light and much cultivation in France, that we are led to complain of the want of superior genius."

To what purpose, indeed, it may be said, all this labour? Is not the importance of everything to man, to be ultimately estimated by its tendency to promote his happiness? And is not our daily experience sufficient to convince us, that this is, in general, by no means proportioned to the culture which his nature has received?—Nay, is there not some ground for suspecting, that the lower orders of men enjoy, on the whole, a more enviable condition than their more enlightened and refined superiors?

The truth, I apprehend, is, that happiness, in so far as it arises from the mind itself, will be always proportioned to the degree of perfection which its powers have attained; but that, in cultivating these powers, with a view to this most important of all objects, it is essentially necessary that such a degree of attention be bestowed on all of them, as may preserve them in that state of relative strength, which appears to be agreeable to the intentions of nature. In consequence of an exclusive attention to the culture of the imagination, the taste, the reasoning faculty, or any of the active principles, it is possible that the pleasures of human life may be diminished, or its pains increased; but the inconveniences which are experienced in such cases, are not to be ascribed to education, but to a partial and injudicious education. In such cases, it is possible that the poet, the metaphysician, or the man of taste and refinement, may appear to disadvantage, when compared with the vulgar; for such is the benevolent appointment of Providence with respect to the lower orders, that, although not one principle of their nature be completely unfolded, the whole of these principles preserve among themselves that balance which is favourable to the tranquillity of their minds, and to a prudent and steady conduct in the limited sphere which is assigned to them, far more completely than in those of their superiors, whose education has been conducted on an erroneous or imperfect system: but all this, far from weakening the force of the foregoing observations, only serves to demonstrate how impossible it always will be to form a rational plan for the improvement of the mind, without an accurate and comprehensive knowledge of the principles of the human constitution.

The remarks which have been already made, are sufficient to illustrate the dangerous consequences which are likely to result from a partial and injudicious cultivation of the mind; and, at the same time, to point out the utility of the intellectual philosophy, in enabling us to preserve a proper balance among all its various faculties, principles of action, and capacities of enjoyment. Many additional observations might be offered, on the tendency which an accurate analysis of its powers might probably have, to suggest rules for their farther improvement, and for a more successful application of them to their proper purposes; but this subject I shall not prosecute at present, as the illustration of it is one of the leading objects of the following work. That the memory, the imagination, or the reasoning faculty, are to be instantly strengthened in consequence of our speculations concerning their nature, it would be absurd to suppose; but it is surely far from being unreasonable to think, that an acquaintance with the laws which regulate these powers, may suggest some useful rules for their gradual cultivation; for remedying their defects, in the case of individuals, and even for extending those limits which nature seems, at first view, to have assigned them.

To how great a degree of perfection the intellectual and moral nature of man is capable of being raised by cultivation, it is difficult to conceive. The effects of early, continued, and systematical education, in the case of those children who are trained, for the sake of gain, to feats of strength and agility, justify, perhaps, the most sanguine views which it is possible for a philosopher to form, with respect to the improvement of the species.

I now proceed to consider, how far the philosophy of mind may be useful in accomplishing the second object of education:

by assisting us in the management of early impressions and associations.

By far the greater part of the opinions on which we act in life are not the result of our own investigations, but are adopted implicitly, in infancy and youth, upon the authority of others. Even the great principles of morality, although implanted in every heart, are commonly aided and cherished, at least to a certain degree, by the care of our instructors. All this is undoubtedly agreeable to the intentions of nature; and, indeed, were the case otherwise, society could not subsist; for nothing can be more evident than that the bulk of mankind, condemned as they are to laborious occupations, which are incompatible with intellectual improvement, are perfectly incapable of forming their own opinions on some of the most important subjects that can employ the human mind. It is evident, at the same time, that as no system of education is perfect, a variety of prejudices must, in this way, take an early hold of our belief; so as to acquire over it an influence not inferior to that of the most incontrovertible truths. When a child hears either a speculative absurdity or an erroneous principle of action, recommended and enforced daily, by the same voice which first conveyed to it those simple and sublime lessons of morality and religion which are congenial to its nature, is it to be wondered at, that, in future life, it should find it so difficult to eradicate prejudices which have twined their roots with all the essential principles of the human frame? If such, however, be the obvious intentions of nature, with respect to those orders of men who are employed in bodily labour, it is equally clear that she meant to impose it as a double obligation on those who receive the advantages of a liberal education, to examine, with the most scrupulous care, the foundation of all those received opinions, which have any connexion with morality, or with human happiness. If the multitude must be led, it is of consequence, surely, that it should be led by enlightened conductors; by men who are able to distinguish truth from error; and to draw the line between those prejudices which are innocent or salutary, (if indeed there are any prejudices which are really salutary,) and those which are hostile to the interests of virtue and of mankind.

In such a state of society as that in which we live, the prejudices of a moral, a political, and a religious nature, which we imbibe in early life, are so various, and at the same time so intimately blended with the belief we entertain of the most sacred and important truths, that a great part of the life of a philosopher must necessarily be devoted, not so much to the acquisition of new knowledge, as to unlearn the errors to which he had been taught to give an implicit assent before the dawn of reason and reflection. And unless he submit in this manner to bring all his opinions to the test of a severe examination, his ingenuity and his learning, instead of enlightening the world, will only enable him to give an additional currency, and an additional authority, to established errors. To attempt such a struggle against early prejudices, is indeed the professed aim of all philosophers; but how few are to be found who have force of mind sufficient for accomplishing their object; and who, in freeing themselves from one set of errors, do not allow themselves to be carried away with another? To succeed in it completely, Lord Bacon seems to have thought, (in one of the most remarkable passages of his writings,) to be more than can well be expected from human frailty. "Nemo adhuc tanta mentis constantia inventus est, ut decreverit, et sibi imposuerit, theorias et notiones communes penitus abolere, et intellectum abrasum et æquum ad particularia, de integro, applicare. Itaque illa ratio humana, quam habemus, ex multa fide, et multo etiam casu, nec non ex puerilibus, quas primo hausimus, notionibus, farrago quædam est, et congeries. Quod siquis, ætate matura, et sensibus integris, et mente repurgata, se ad experientiam, et ad particularia de integro applicet, de eo melius sperandum est."—[*Nov. Org.* lib. i. § 97.]

Nor is it merely in order to free the mind from the influence of error, that it is useful to examine the foundation of established opinions. It is such an examination alone, that, in an inquisitive age like the present, can secure a philosopher from the danger of unlimited scepticism. To this extreme, indeed, the complexion of the times is more likely to give him a tendency than to implicit credulity. In the former ages of ignorance and superstition, the intimate association which had been formed, in the prevailing systems of education, between truth and error, had given to the latter an ascendant over the minds of men, which it could never have acquired, if divested of such an alliance. The case has, of late years, been most remarkably reversed: the common sense of mankind, in consequence of the growth of a more liberal spirit of inquiry, has revolted against many of those absurdities which had so long held human reason in captivity; and it was, perhaps, more than could reasonably have been expected, that, in the first moments of their emancipation, philosophers should have stopped short at the precise boundary, which cooler reflection and more moderate views would have prescribed. The fact is, that they have passed far beyond it; and that, in their zeal to destroy prejudices, they have attempted to tear up by the roots many of the best and happiest and most essential principles of our nature. Having remarked the powerful influence of education over the mind, they have concluded that man is wholly a factitious being; not recollecting that this very susceptibility of education presupposes certain original principles, which are common to the whole species; and that as error can only take a permanent hold of a candid mind by being grafted on truths, which it is unwilling or unable to eradicate, even the influence, which false and absurd opinions occasionally acquire over the belief, instead of being an argument for universal scepticism, is the most decisive argument against it; inasmuch as it shows, that there are some truths so incorporated and identified with our nature, that they can reconcile us even to the absurdities and contradictions with which we suppose them to be inseparably connected. The sceptical philosophers, for example, of the present age, have frequently attempted to hold up to ridicule those contemptible and puerile superstitions which have disgraced the creeds of some of the most enlightened nations; and which have not only commanded the assent, but the reverence of men of the most accomplished understandings. But these histories of human imbecility are, in truth, the strongest testimonies which can be produced, to prove how wonderful is the influence of the fundamental principles of morality over the belief; when they are able to sanctify, in the apprehensions of mankind, every extravagant opinion, and every unmeaning ceremony, which early education has taught us to associate with them.

That implicit credulity is a mark of a feeble mind will not be disputed; but it may not perhaps be as generally acknowledged, that the case is the same with unlimited scepticism: on the contrary, we are sometimes apt to ascribe this disposition to a more than ordinary vigour of intellect. Such a prejudice was by no means unnatural at that period in the history of modern Europe, when reason first began to throw off the yoke of authority; and when it unquestionably required a superiority of understanding, as well as of intrepidity, for an individual to resist the contagion of prevailing superstition. But in the present age, in which the tendency of fashionable opinions is directly opposite to those of the vulgar, the philosophical creed, or the philosophical scepticism of by far the greater number of those who value themselves on an emancipation from popular errors, arises from the very same weakness with the credulity of the multitude: nor is it going too far to say, with Rousseau, that "He who, in the end of the eighteenth century, has brought himself to abandon all his early principles without discrimination, would probably have been a bigot in the days of the League." In the midst of these contrary impulses of fashionable and of vulgar prejudices, he alone evinces the superiority and the strength of his mind who is able to disentangle truth from error; and to oppose the clear conclusions of his own unbiassed faculties to the united clamours of superstition and of false philosophy.—Such are the men whom nature marks out to be the lights of the world, to fix the wavering opinions of the multitude, and to impress their own characters on that of their age.

For securing the mind completely from the weaknesses I have now been describing, and enabling it to maintain a steady course of inquiry between implicit credulity and unlimited scepticism, the most important of all qualities is a sincere and devoted attachment to truth; which seldom fails to be accompanied with a manly confidence in the clear conclusions of human reason. It is such a confidence, united (as it generally is) with personal intrepidity, which forms what the French writers call force of character: one of the rarest endowments, it must be confessed, of our species, but which, of all endowments, is the most essential for rendering a philosopher happy in himself, and a blessing to mankind.

There is, I think, good reason for hoping, that the sceptical tendency of the present age will be only a temporary evil. While it continues, however, it is an evil of the most alarming nature; and as it extends, in general, not only to religion and morality, but, in some measure, also to politics and the conduct of life, it is equally fatal to the comfort of the individual and to the improvement of society. Even in its most offensive form, when it happens to be united with a peaceable disposition and a benevolent heart, it cannot fail to have the effect of damping every active and patriotic exertion. Convinced that truth is placed beyond the reach of the human faculties, and doubtful how far the prejudices we despise may not be essential to the wellbeing of society, we resolve to abandon completely all speculative inquiries; and suffering ourselves to be carried quietly along with the stream of popular opinions and of fashionable manners, determine to amuse ourselves, the best way we can, with business or pleasure, during our short passage through this scene of illusions. But he who thinks more favourably of the human powers, and who believes that reason was given to man to direct him to his duty and his happiness, will despise the suggestions of this timid philosophy; and while he is conscious that he is guided in his inquiries only by the love of truth, will rest assured that their result will be equally favourable to his own comfort, and to the best interests of mankind. What, indeed, will be the particular effects, in the first instance, of that general diffusion of knowledge, which the art of printing must sooner or later produce, and of that spirit of reformation with which it cannot fail to be accompanied, it is beyond the reach of human sagacity to conjecture; but unless we choose to abandon ourselves entirely to a desponding scepticism, we must hope and believe, that the progress of human reason can never be a source of permanent disorder to the world; and that they alone have cause to apprehend the consequences, who are led, by the imperfection of our present institutions, to feel themselves interested in perpetuating the prejudices and follies of their species.

From the observations which have been made, it sufficiently appears, that, in order to secure the mind, on the one hand, from the influence of prejudice, and on the other, from a tendency to unlimited scepticism, it is necessary that it should be able to distinguish the original and universal principles and laws of human nature, from the adventitious effects of local situation. But if, in the case of an individual who has received an imperfect or erroneous education, such a knowledge puts it in his power to correct, to a certain degree, his own bad habits, and to surmount his own speculative errors, it enables him to be useful, in a much higher degree, to those whose education he has an opportunity of superintending from early infancy. Such, and so permanent, is the effect of first impressions on the character, that although a philosopher may succeed, by perseverance, in freeing his reason from the prejudices with which it was entangled, they will still retain some hold of his imagination and his affections; and, therefore, however enlightened his understanding may be in his hours of speculation, his philosophical opinions will frequently lose their influence over his mind, in those very situations in which their practical assistance is most required;—when his temper is soured by misfortune, or when he engages in the pursuits of life, and exposes himself to the contagion of popular errors. His opinions are supported merely by speculative arguments; and, instead of being connected with any of the active principles of his nature, are counteracted and thwarted by some of the most powerful of them. How different would the case be, if education were conducted from the beginning with attention and judgment? Were the same pains taken to impress truth on the mind in early infancy, that is often taken to inculcate error, the great principles of our conduct would not only be juster than they are, but, in consequence of the aid which they would receive from the imagination and the heart, trained to conspire with them in the same direction, they would render us happier in ourselves, and would influence our practice more powerfully and more habitually. There is surely nothing in error which is more congenial to the mind than truth. On the contrary, when exhibited separately and alone to the understanding, it shocks our reason and provokes our ridicule; and it is only (as I had occasion already to remark) by an alliance with truths which we find it difficult to renounce, that it can obtain our assent, or command our reverence. What advantages, then, might be derived from a proper attention to early impressions and associations, in giving support to those principles which are connected with human happiness? The long reign of error in the world, and the influence it maintains, even in an age of liberal inquiry, far from being favourable to the supposition that human reason is destined to be for ever the sport of prejudice and absurdity, demonstrates the tendency which there is to permanence in established opinions, and in established institutions, and promises an eternal stability to true philosophy, when it shall once have acquired the ascendant, and when proper means shall be employed to support it, by a more perfect system of education.

Let us suppose, for a moment, that this happy era were arrived, and that all the prepossessions of childhood and youth were directed to support the pure and sublime truths of an enlightened morality. With what ardour, and with what transport, would the understanding, when arrived at maturity, proceed in the search of truth; when, instead of being obliged to struggle at every step with early prejudices, its office was merely to add the force of philosophical conviction to impressions which are equally delightful to the imagination, and dear to the heart! The prepossessions of childhood would, through the whole of life, be gradually acquiring strength from the enlargement of our knowledge; and, in their turn, would fortify the conclusions of our reason against the sceptical suggestions of disappointment or melancholy.

Our daily experience may convince us, how susceptible the tender mind is of deep impressions; and what important and permanent effects are produced on the characters and the happiness of individuals, by the casual associations formed in childhood among the various ideas, feelings, and affections, with which they were habitually occupied. It is the business of education not to counteract this constitution of nature, but to give it a proper direction; and the miserable consequences to which it leads, when under an improper regulation, only shew what an important instrument of human improvement it might be rendered, in more skilful hands. If it be possible to interest the imagination and the heart in favour of error, it is, at least, no less possible to interest them in favour of truth. If it be possible to extinguish all the most generous and heroic feelings of our nature, by teaching us to connect the idea of them with those of guilt and impiety; it is surely equally possible to cherish and strengthen them, by establishing the natural alliance between our duty and our happiness. If it be possible for the influence of fashion to veil the native deformity of vice, and to give to low and criminal indulgences the appearance of spirit, of elegance, and of gaiety; can we doubt of the possibility of connecting, in the tender mind, these pleasing associations with pursuits that are truly worthy and honourable?—There are few men to be found, among those who have received the advantages of a liberal education, who do not retain through life that admiration of the heroic ages of Greece and Rome, with which the classical authors once inspired them. It is, in truth, a fortunate prepossession on the whole, and one of which I should be sorry to counteract the influence. But are there not others of equal importance to morality and to happiness, with which the mind might, at the same period of life, be inspired? If the first conceptions, for example, which an infant formed of the Deity, and its first moral perceptions, were associated with the early impressions produced on the heart by the beauties of nature, or the charms of poetical description, those serious thoughts which are resorted to by most men merely as a source of consolation in adversity, and which, on that very account, are frequently tinctured with some degree of gloom, would recur spontaneously to the mind, in its best and happiest hours, and would insensibly blend themselves with all its purest and most refined enjoyments.

In those parts of Europe where the prevailing opinions involve the greatest variety of errors and corruptions, it is, I believe, a common idea with many respectable and enlightened men, that, in every country, it is most prudent to conduct the religious instruction of youth upon the plan which is prescribed by the national establishment, in order that the pupil, according to the vigour or feebleness of his mind, may either shake off, in future life, the prejudices of the nursery, or die in the popular persuasion. This idea, I own, appears to me to be equally ill-founded and dangerous. If religious opinions have, as will not be disputed, a powerful influence on the happiness and on the conduct of mankind, does not humanity require of us to rescue as many victims as possible from the hands of bigotry, and to save them from the cruel alternative of remaining under the gloom of a depressing superstition, or of being distracted by a perpetual conflict between the heart and the understanding? It is an enlightened education alone that, in most countries of Europe, can save the young philosopher from that anxiety and despondence, which every man of sensibility, who in his childhood has imbibed the popular opinions, must necessarily experience, when he first begins to examine their foundation; and, what is of still greater importance, which can save him during life from that occasional scepticism to which all men are liable, whose systems fluctuate with the inequalities of their spirits, and the variations of the atmosphere.

I shall conclude this subject with remarking, that, although in all moral and religious systems, there is a great mixture of important truth; and although it is, in consequence of this alliance, that errors and absurdities are enabled to preserve their hold of the belief, yet it is commonly found, that in proportion as an established creed is complicated in its dogmas and in its ceremonies, and in proportion to the number of accessory ideas which it has grafted upon the truth, the more difficult is it, for those who have adopted it in childhood, to emancipate themselves completely from its influence; and, in those cases in which they at last succeed, the greater is their danger of abandoning, along with their errors, all the truths which they had been taught to connect with them. The Roman Catholic system is shaken off with much greater difficulty than those which are taught in the Reformed churches; but when it loses its hold of the mind, it much more frequently prepares the way for unlimited scepticism. The causes of this I may perhaps have an opportunity of pointing out, in treating of the association of ideas.

I have now finished all that I think necessary to offer, at present, on the application of the philosophy of mind to the subject of education. To some readers, I am afraid that what I have advanced on the subject will appear to border upon enthusiasm; and I will not attempt to justify myself against the charge. I am well aware of the tendency, which speculative men sometimes have, to magnify the effects of education, as well as to entertain too sanguine views of the improvement of the world; and I am ready to acknowledge, that there are instances of individuals whose vigour of mind is sufficient to overcome everything that is pernicious in their early habits; but I am fully persuaded, that these instances are rare, and that by far the greater part of mankind continue, through life, to pursue the same track into which they have been thrown, by the accidental circumstances of situation, instruction, and example.

SECT. II.—CONTINUATION OF THE SAME SUBJECT.

The remarks which have been hitherto made on the utility of the philosophy of the human mind, are of a very general nature, and apply equally to all descriptions of men. Besides, however, these more obvious advantages of the study, there are others which, though less striking, and less extensive in their application, are nevertheless, to some particular classes of individuals, of the highest importance. Without pretending to exhaust the subject, I shall offer a few detached observations upon it in this section.

I already took notice, in general terms, of the common relation which all the different branches of our knowledge bear to the philosophy of the human mind. In consequence of this relation, it not only forms an interesting object of curiosity to literary men of every denomination, but, if successfully prosecuted, it cannot fail to furnish useful lights for directing their inquiries, whatever the nature of the subjects may be which happen to engage their attention.

In order to be satisfied of the justness of this observation, it is sufficient to recollect, that to the philosophy of the mind are to be referred all our inquiries concerning the divisions and the classifications of the objects of human knowledge; and also all the various rules, both for the investigation and the communication of truth. These general views of science, and these general rules of method, ought to form the subjects of a rational and useful logic; a study, undoubtedly, in itself of the greatest importance and dignity, but in which less progress has hitherto been made than is commonly imagined.

I shall endeavour to illustrate, very briefly, a few of the advantages which might be expected to result from such a system of logic, if properly executed.

I. And, in the first place, it is evident that it would be of the highest importance in all the sciences, (in some of them, indeed, much more than in others,) to exhibit a precise and steady idea of the objects which they present to our inquiry.—What was the principal circumstance which contributed to mislead the ancients in their physical researches? Was it not their confused and wavering notions about the particular class of truths which it was their business to investigate? It was owing to this that they were led to neglect the obvious phenomena and laws of moving bodies; and to indulge themselves in conjectures about the efficient causes of motion, and the nature of those minds, by which they conceived the particles of matter to be animated; and that they so often blended the history of facts with their metaphysical speculations. In the present state of science, indeed, we are not liable to such mistakes in natural philosophy; but it would be difficult to mention any other branch of knowledge which is entirely exempted from them. In metaphysics, I might almost say they are at the bottom of all our controversies. In the celebrated dispute, for example, which has been so long carried on about the explanation given by the ideal theory of the phenomena of perception, the whole difficulty arose from this, that philosophers had no precise notion of the point they wished to ascertain; and now that the controversy has been brought to a conclusion, (as I think all men of candour must confess it to have been by Dr. Reid,) it will be found, that his doctrine on the subject throws no light whatever on what was generally understood to be the great object of inquiry,—I mean, on the mode of communication between the mind and the material world; and, in truth, amounts only to a precise description of the fact, stripped of all hypothesis, and stated in such a manner as to give us a distinct view of the insurmountable limits which nature has in this instance prescribed to our curiosity. The same observation may be made, on the reasonings of this sensible and original author, with respect to some metaphysical questions that had been started on the subject of vision; in particular, concerning the cause of our seeing objects single with two eyes, and our seeing objects erect, by means of inverted images on the retina.

If we were to examine, in like manner, the present state of morals, of jurisprudence, of politics, and of philosophical criticism, I believe we should find, that the principal circumstance which retards their progress, is the vague and indistinct idea which those who apply to the study of them have formed to themselves of the objects of their researches. Were these objects once clearly defined, and the proper plan of inquiry for attaining them illustrated by a few unexceptionable models, writers of inferior genius would be enabled to employ their industry to much more advantage, and would be prevented from adding to that rubbish which, in consequence of the ill-directed ingenuity of our predecessors, obstructs our progress in the pursuit of truth.

As a philosophical system of logic would assist us in our particular scientific investigations, by keeping steadily in our view the attainable objects of human curiosity; so, by exhibiting to us the relation in which they all stand to each other, and the relation which they all bear to what ought to be their common aim,—the advancement of human happiness, it would have a tendency to confine industry and genius to inquiries which are of real practical utility; and would communicate a dignity to the most subordinate pursuits, which are in any respect subservient to so important a purpose. When our views are limited to one particular science, to which we have been led to devote ourselves by taste or by accident, the course of our studies resembles the progress of a traveller through an unexplored country; whose wanderings from place to place are determined merely by the impulse of occasional curiosity, and whose opportunities of information must necessarily be limited to the objects which accidentally present themselves to his notice. It is the philosophy of the mind alone which, by furnishing us with a general map of the field of human knowledge, can enable us to proceed with steadiness, and in a useful direction; and while it gratifies our curiosity and animates our exertions, by exhibiting to us all the various bearings of our journey, can conduct us to those eminences from whence the eye may wander over the vast and unexplored regions of science. Lord Bacon was the first person who took this comprehensive view of the different departments of study, and who pointed out, to all the classes of literary men, the great end to which their labours should conspire,—the multiplication of the sources of human enjoyment, and the extension of man's dominion over nature. Had this object been kept steadily in view by his followers, their discoveries, numerous and important as they have been, would have advanced with still greater rapidity, and would have had a much more extensive influence on the practical arts of life.[1]

From such a system of logic, too, important assistance might be expected, for reforming the established plan of public or academical education. It is melancholy to reflect on the manner in which this is carried on in most, perhaps I might say in all the countries of Europe; and that, in an age of comparative light and liberality, the intellectual and moral characters of youth should continue to be formed on a plan devised by men who were not only strangers to the business of the world, but who felt themselves interested in opposing the progress of useful knowledge.

For accomplishing a reformation in the plan of academical study, on rational and systematical principles, it is necessary, in the first place, to consider the relation in which the different branches of literature, and the different arts and sciences, stand to each other, and to the practical purposes of life: and secondly, to consider them in relation to the human mind, in order to determine the arrangement best fitted for unfolding and maturing its faculties. Many valuable hints towards such a work may be collected from Lord Bacon's writings.

II. Another very important branch of a rational system of logic (as I had occasion already to observe) ought to be: to lay down the rules of investigation which it is proper to follow in the different sciences. In all of these, the faculties of the understanding are the instruments with which we operate; and without a previous knowledge of their nature, it is impossible to employ them to the best advantage. In every exercise of our reasoning and of our inventive powers, there are general laws which regulate the progress of the mind; and when once these laws are ascertained, they enable us to speculate and to invent, for the future, with more system, and with a greater certainty of success. In the mechanical arts, it is well known how much time and ingenuity are misapplied by those who acquire their practical skill by their own trials, undirected by the precepts or example of others. What we call the rules of an art, are merely a collection of general observations, suggested by long experience, with respect to the most compendious and effectual means of performing every different step of the processes which the art involves. In consequence of such rules, the artist is enabled to command the same success in all his operations, for which the unskilled workman must trust to a happy combination of accidental circumstances; the misapplications, too, of the labour of one race are saved to the next; and the acquisition of practical address is facilitated, by confining its exertions to one direction. The analogy is perfect in those processes which are purely intellectual, and to regulate which is the great object of logic. In the case of individuals who have no other guide to direct them in their inquiries than their own natural sagacity, much time and ingenuity must inevitably be thrown away in every exertion of the inventive powers. In proportion, however, to the degree of their experience and observation, the number of these misapplications will diminish; and the power of invention will be enabled to proceed with more certainty and steadiness to its object. The misfortune is, that as the aids which the understanding derives from experience are seldom recorded in writing, or even described in words, every succeeding inquirer finds himself, at the commencement of his philosophical pursuits, obliged to struggle with the same disadvantages which had retarded the progress of his predecessors. If the more important practical rules, which habits of investigation suggest to individuals, were diligently preserved, each generation would be placed in circumstances more favourable to invention than the preceding; and the progress of knowledge, instead of cramping original genius, would assist and direct its exertions. In the infancy of literature, indeed, its range may be more unbounded, and its accidental excursions may excite more astonishment than in a cultivated and enlightened age; but it is only in such an age that inventive genius can be trained by rules founded on the experience of our predecessors, in such a manner as to insure the gradual and regular improvement of science. So just is the remark of Lord Bacon: "Certo sciant homines, artes inveniendi solidas et veras adolescere et incrementa sumere cum ipsis inventis."*

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[1] ["Alius error est, quod post singulas scientias et artes suas in classes distributas, mox a plerisque universali rerum cognitioni et philosophiæ primæ renunciatur; quod quidem profectui doctrinarum inimicissimum est. Prospectationes fiunt e turribus, aut locis præaltis; et impossibile est, ut quis exploret remotiores interioresque scientiæ alicujus partes, si stet super plano ejusdem scientiæ, neque altioris scientiæ veluti speculum conscendat."] . . . . .

"Omnium autem gravissimus error in deviatione ab ultimo doctrinarum fine consistit. Appetunt enim homines scientiam:—alii ex insitâ curiositate et irrequietâ; alii animi causâ et delectationis, alii existimationis gratiâ; alii contentionis ergo, atque ut in disserendo superiores sint: plerique propter lucrum et victum: paucissimi, ut donum rationis, divinitus datum, in usus humani generis impendant. . . . . Hoc enim illud est, quod revera doctrinam atque artes condecoraret, et attolleret, si contemplatio, et actio, arctiore quam adhuc vinculo copularentur."—*De Aug. Scient* lib. i.

The analogy between the mechanical arts and the operations of scientific invention, might perhaps be carried further. In the former, we know how much the natural powers of man have been assisted by the use of tools and instruments. Is it not possible to devise, in like manner, certain aids to our intellectual faculties?

That such a query is not altogether chimerical, appears from the wonderful effects of Algebra (which is precisely such an instrument of thought, as I have been now alluding to) in facilitating the inquiries of modern mathematicians. Whether it might not be possible to realize a project which Leibnitz has somewhere mentioned, of introducing a similar contrivance into other branches of knowledge, I shall not take upon me to determine; but that this idea has at least some plausibility, must, I think, be evident to those who have reflected on the nature of the general terms which abound more or less in every cultivated language; and which may be considered as one species of instrumental aid which art has discovered to our intellectual powers. From the observations which I am afterwards to make, it will appear, that, without general terms, all our reasonings must necessarily have been limited to particulars; and, consequently, it is owing to the use of these, that the philosopher is enabled to speculate concerning classes of objects, with the same facility with which the savage or the peasant speculates concerning the individuals of which they are composed.

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* [*De Augm. Scient.* lib. v.]

The technical terms, in the different sciences, render the appropriated language of philosophy a still more convenient instrument of thought, than those languages which have originated from popular use; and in proportion as these technical terms improve in point of precision and comprehensiveness, they will contribute to render our intellectual progress more certain and more rapid. "While engaged," says Mr. Lavoisier, "in the composition of my *Elements of Chemistry*, I perceived, better than I had ever done before, the truth of an observation of Condillac, that we think only through the medium of words: and that languages are true analytical methods. Algebra, which, of all our modes of expression, is the most simple, the most exact, and the best adapted to its purpose, is, at the same time, a language and an analytical method. The art of reasoning is nothing more than a language well arranged." The influence which these very enlightened and philosophical views have already had on the doctrines of chemistry, cannot fail to be known to most of my readers.

The foregoing remarks, in so far as they relate to the possibility of assisting our reasoning and inventive powers by new instrumental aids, may perhaps appear to be founded too much upon theory; but this objection cannot be made to the reasonings I have offered on the importance of the study of method. —To the justness of these, the whole history of science bears testimony, but more especially the histories of Physics and of pure Geometry, which afford so remarkable an illustration of the general doctrine, as can scarcely fail to be satisfactory even to those who are the most disposed to doubt the efficacy of art in directing the exertions of genius.

With respect to the former, it is sufficient to mention the wonderful effects which the writings of Lord Bacon have produced in accelerating its progress. The philosophers who flourished before his time were, undoubtedly, not inferior to their successors, either in genius or industry: but their plan of investigation was erroneous, and their labours have produced only a chaos of fictions and absurdities. The illustrations which his works contain, of the method of induction, general as the terms are in which they are expressed, have gradually turned the attention of the moderns to the rules of philosophizing, and have led the way to those important and sublime discoveries in physics, which reflect so much honour on the present age.

The rules of philosophizing, however, even in physics, have never yet been laid down with a sufficient degree of precision, minuteness, or method; nor have they ever been stated and illustrated in so clear and popular a manner, as to render them intelligible to the generality of readers. The truth, perhaps, is,—that the greater part of physical inquirers have derived what knowledge of them they possess, rather from an attention to the excellent models of investigation, which the writings of Newton exhibit, than from any of the speculations of Lord Bacon or his commentators: and, indeed, such is the incapacity of most people for abstract reasoning, that I am inclined to think, even if the rules of inquiry were delivered in a perfectly complete and unexceptionable form, it might still be expedient to teach them to the majority of students rather by examples than in the form of general principles. But it does not therefore follow, that an attempt to illustrate and to methodize these rules would be useless: for it must be remembered, that although an original and inventive genius, like that of Newton, be sufficient to establish a standard for the imitation of his age, yet, that the genius of Newton himself was encouraged and led by the light of Bacon's philosophy.

The use which the ancient Greek geometers made of their *analysis*, affords an additional illustration of the utility of method in guiding scientific invention. To facilitate the study of this species of investigation, they wrote no less than thirty-three preparatory books; and they considered an address, in the practice of it, (or, as MARINUS calls it, a δύναμις ἀναλυτίκη,) as of much more value than an extensive acquaintance with the principles of the science.[1] Indeed, it is well known to every one who is at all conversant with geometrical investigations, that although it may be possible for a person, without the assistance of the method of analysis, to stumble accidentally on a solution or on a demonstration, yet it is impossible for him to possess a just confidence in his own powers, or to carry on a regular plan of invention and discovery. It is well known, too, that an acquaintance with this method brings geometers much more nearly upon a level with each other than they would be otherwise: not that it is possible, by any rules, to supersede entirely ingenuity and address; but, because, in consequence of the uniformity of the plan on which the method proceeds, experience communicates a certain dexterity in the use of it, which must in time give to a very ordinary degree of sagacity a superiority, on the whole, to the greatest natural ingenuity, unassisted by rule.[1]

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[1] Μείζον ἐστὶ τὸ δύναμιν ἀναλυτίκην κτήσασθαι, τοῦ πολλὰς ἀποδείξεις τῶν ἐπὶ μέρους ἔχειν.

To these observations, I believe I may add, that after all that was done by the Greek philosophers to facilitate mathematical invention, many rules still remain to be suggested, which might be of important use even in pure geometry. A variety of such occur to every experienced mathematician in the course of his inquiries, although, perhaps, he may not be at the trouble to state them to himself in words; and it would plainly have saved him much expense of time and thought, besides enabling him to conduct his researches on a more regular plan, if he had been taught them systematically at the commencement of his studies. The more varied, abstruse, and general investigations of the moderns, stand in need, in a much greater degree, of the guidance of philosophical principles; not only for enabling us to conduct, with skill, our particular researches, but for directing us to the different methods of reasoning, to which we ought to have recourse on different occasions. A collection of such rules would form what might be called with propriety, the logic of mathematics; and would probably contribute greatly to the advancement of all those branches of knowledge to which mathematical learning is subservient.

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[1] "Mathematica multi sciunt, mathesin pauci. Aliud est enim nosse propositiones aliquot, et nonnullas ex iis obvias elicere, casu potius quam certa aliqua discurrendi norma, aliud scientiæ ipsius naturam ac indolem perspectam habere, in ejus se adyta penetrare, et ab universalibus instructum esse præceptis, quibus theoremata ac problemata innumera excogitandi, eademque demonstrandi facilitas comparetur. Ut enim pictorum vulgus prototypon sæpe sæpius exprimendo, quendam pingendi usum, nullam vero pictoriæ artis quam optica suggerit scientiam adquirit, ita multi, lectis Euclidis et aliorum geometrarum libris, eorum imitatione fingere propositiones aliquas ac demonstrare solent, ipsam tamen secretissimam difficiliorum theorematum ac problematum solvendi methodum prorsus ignorant."—Joannis de la Faille *Theoremata de Centro Gravitatis*, in præfat. Antverpiæ, 1632.

The observations which have been now made, on the importance of method in conducting physical and mathematical researches, particularly those which relate to the last of these subjects, will not apply literally to our inquiries in metaphysics, morals, or politics; because, in these sciences our reasonings always consist of a comparatively small number of intermediate steps; and the obstacles which retard our progress do not, as in mathematics, arise from the difficulty of finding media of comparison among our ideas. Not that these obstacles are less real, or more easily surmounted: on the contrary, it seems to require a still rarer combination of talents to surmount them; for how small is the number of individuals who are qualified to think justly on metaphysical, moral, or political subjects, in comparison of those who may be trained by practice to follow the longest processes of mathematical reasoning. From what these obstacles arise I shall not inquire particularly at present. Some of the more important of them may be referred to the imperfections of language; to the difficulty of annexing precise and steady ideas to our words; to the difficulty, in some cases, of conceiving the subjects of our reasoning; and, in others, of discovering and keeping in view all the various circumstances upon which our judgment ought to proceed; and, above all, to the prejudices which early impressions and associations create to warp our opinions.—To illustrate these sources of error in the different sciences which are liable to be affected by them, and to point out the most effectual means for guarding against them, would form another very interesting article in a philosophical system of logic.

The method of communicating to others the principles of the different sciences, has been as much neglected by the writers on logic, as the rules of investigation and discovery; and yet there is certainly no undertaking whatever, in which their assistance is more indispensably requisite. The first principles of all the sciences are intimately connected with the philosophy of the human mind; and it is the province of the logician, to state these in such a manner as to lay a solid foundation for the superstructures which others are to rear.—It is in stating such principles, accordingly, that elementary writers are chiefly apt to fail. How unsatisfactory, for example, are the introductory chapters in most systems of natural philosophy; not in consequence of any defect of physical or of mathematical knowledge in their authors, but in consequence of a want of attention to the laws of human thought, and to the general rules of just reasoning! The same remark may be extended to the form in which the elementary principles of many of the other sciences are commonly exhibited; and, if I am not mistaken, this want of order among the first ideas which they present to the mind, is a more powerful obstacle to the progress of knowledge than is generally imagined.

I shall only observe farther, with respect to the utility of the philosophy of mind, that as there are some arts in which we not only employ the intellectual faculties as instruments, but operate on the mind as a subject; so, to those individuals who aim at excellence in such pursuits, the studies I have now been recommending are, in a more peculiar manner, interesting and important. In poetry, in painting, in eloquence, and in all the other fine arts, our success depends on the skill with which we are able to adapt the efforts of our genius to the human frame; and it is only on a philosophical analysis of the mind, that a solid foundation can be laid for their farther improvement. Man, too, is the subject on which the practical moralist and the enlightened statesman have to operate. Of the former, it is the professed object to engage the attention of individuals to their own best interest; and to allure them to virtue and happiness by every consideration that can influence the understanding, the imagination, or the heart. To the latter is assigned the sublimer office of seconding the benevolent intentions of Providence in the administration of human affairs; to diffuse as widely and equally as possible, among his fellow-citizens, the advantages of the social union; and by a careful study of the constitution of man, and of the circumstances in which he is placed, to modify the political order, in such a manner as may allow free scope and operation to those principles of intellectual and moral improvement which nature has implanted in our species.

In all these cases, I am very sensible that the utility of systematical rules has been called in question by philosophers of note; and that many plausible arguments in support of their opinion may be derived from the small number of individuals who have been regularly trained to eminence in the arts, in comparison of those who have been guided merely by untutored genius, and the example of their predecessors. I know, too, that it may be urged with truth, that rules have, in some cases, done more harm than good, and have misled, instead of directing, the natural exertions of the mind. But in all such instances in which philosophical principles have failed in producing their intended effect, I will venture to assert, that they have done so either in consequence of errors which were accidentally blended with them, or in consequence of their possessing only that slight and partial influence over the genius, which enabled them to derange its previously acquired habits, without regulating its operations upon a systematical plan, with steadiness and efficacy. In all the arts of life, whether trifling or important, there is a certain degree of skill which may be attained by our untutored powers, aided by imitation; and this skill, instead of being perfected by rules, may, by means of them, be diminished or destroyed, if these rules are partially and imperfectly apprehended, or even if they are not so familiarized to the understanding as to influence its exertions uniformly and habitually. In the case of a musical performer who has learnt his art merely by the ear, the first effects of systematical instruction are, I believe, always unfavourable. The effect is the same of the rules of elocution, when first communicated to one who has attained, by his natural taste and good sense, a tolerable propriety in the art of reading. But it does not follow from this, that in either of these arts rules are useless. It only follows that, in order to unite ease and grace with correctness, and to preserve the felicities of original genius, amidst those restraints which may give them a useful direction, it is necessary that the acquisitions of education should, by long and early habits, be rendered in some measure a second nature.—The same observations will be found to apply, with very slight alterations, to arts of more serious importance. In the art of legislation, for example, there is a certain degree of skill which may be acquired merely from the routine of business; and when once a politician has been formed in this manner, among the details of office, a partial study of general principles will be much more likely to lead him astray than to enlighten his conduct. But there is nevertheless a science of legislation, which the details of office and the intrigues of popular assemblies will never communicate; a science of which the principles must be sought for in the constitution of human nature, and in the general laws which regulate the course of human affairs; and which, if ever, in consequence of the progress of reason, philosophy should be enabled to assume that ascendant in the government of the world, which has hitherto been maintained by accident, combined with the passions and caprices of a few leading individuals, may perhaps produce more perfect and happy forms of society, than have yet been realized in the history of mankind.

I have thus endeavoured to point out and illustrate a few of the most important purposes to which the philosophy of the human mind is subservient. It will not, however, I flatter myself, be supposed by any of my readers, that I mean to attempt a systematical work on all or any of the subjects I have now mentioned, the most limited of which would furnish matter for many volumes. What I have aimed at has been to give, in the first place, as distinct and complete an analysis as I could, of the principles, both intellectual and active, of our nature; and, in the second place, to illustrate, as I proceed, the application of these general laws of the human constitution, to the different classes of phenomena which result from them. In the selection of these phenomena, although I have sometimes been guided chiefly by the curiosity of the moment, or the accidental course of my own studies, yet I have had it in view to vary, as far as possible, the nature of my speculations, in order to show how numerous and different the applications are of which this philosophy is susceptible. It will not, therefore, I hope, be objected to me, that I have been guilty of a blameable violation of unity in the plan of my work, till it be considered how far such a violation was useful for accomplishing the purposes for which I write. One species of unity I am willing to believe an attentive reader will be able to trace in it: I mean that uniformity of thought and design, "which," as Butler well remarks, "we may always expect to meet with in the compositions of the same author, when he writes with simplicity and in earnest."

PHILOSOPHY OF THE HUMAN MIND.

CHAPTER I.

OF THE POWERS OF EXTERNAL PERCEPTION.

SECT. I.—OF THE THEORIES WHICH HAVE BEEN FORMED BY PHILOSOPHERS, TO EXPLAIN THE MANNER IN WHICH THE MIND PERCEIVES EXTERNAL OBJECTS.

AMONG the various phenomena which the human mind presents to our view, there is none more calculated to excite our curiosity and our wonder, than the communication which is carried on between the sentient, thinking, and active principle within us, and the material objects with which we are surrounded. How little soever the bulk of mankind may be disposed to attend to such inquiries, there is scarcely a person to be found, who has not occasionally turned his thoughts to that mysterious influence which the will possesses over the members of the body; and to those powers of perception which seem to inform us, by a sort of inspiration, of the various changes which take place in the external universe. Of those who receive the advantages of a liberal education, there are perhaps few who pass the period of childhood without feeling their curiosity excited by this incomprehensible communication between Mind and Matter. For my own part, at least, I cannot recollect the date of my earliest speculations on the subject.

It is to the phenomena of perception alone that I am to confine myself in the following essay; and even with respect to these, all that I propose is, to offer a few general remarks on such of the common mistakes concerning them as may be most likely to mislead us in our future inquiries. Such of my readers as wish to consider them more in detail, will find ample satisfaction in the writings of Dr. Reid.

In considering the phenomena of perception, it is natural to suppose, that the attention of philosophers would be directed, in the first instance, to the sense of seeing. The variety of information and of enjoyment we receive by it; the rapidity with which this information and enjoyment are conveyed to us; and above all, the intercourse it enables us to maintain with the more distant part of the universe, cannot fail to give it, even in the apprehension of the most careless observer, a pre-eminence over all our other perceptive faculties. Hence it is that the various theories which have been formed to explain the operations of our senses, have a more immediate reference to that of seeing; and that the greater part of the metaphysical language, concerning perception in general, appears evidently, from its etymology, to have been suggested by the phenomena of vision. Even when applied to this sense, indeed, it can at most amuse the fancy without conveying any precise knowledge; but, when applied to the other senses, it is altogether absurd and unintelligible.

It would be tedious and useless, to consider particularly, the different hypotheses which have been advanced upon this subject. To all of them, I apprehend, the two following remarks will be found applicable: First, that in the formation of them, their authors have been influenced by some general maxims of philosophizing, borrowed from physics; and, secondly, that they have been influenced by an indistinct but deep-rooted conviction of the immateriality of the soul, which, although not precise enough to point out to them the absurdity of attempting to illustrate its operations by the analogy of matter, was yet sufficiently strong to induce them to keep the absurdity of their theories as far as possible out of view, by allusions to those physical facts, in which the distinctive properties of matter are the least grossly and palpably exposed to our observation. To the former of these circumstances is to be ascribed the general principle upon which all the known theories of perception proceed; that, in order to explain the intercourse between the mind and distant objects, it is necessary to suppose the existence of something intermediate, by which its perceptions are produced; to the latter, the various metaphorical expressions of *ideas*, *species*, *forms*, *shadows*, *phantasms*, *images*, which, while they amused the fancy with some remote analogies to the objects of our senses, did not directly revolt our reason, by presenting to us any of the tangible qualities of body.

"It was the doctrine of Aristotle," says Dr. Reid, "that as our senses cannot receive external material objects themselves, they receive their species; that is, their images or forms without the matter, as wax receives the form of the seal without any of the matter of it. These images or forms, impressed upon the senses, are called *sensible species*, and are the objects only of the sensitive part of the mind: but by various internal powers, they are retained, refined, and spiritualized, so as to become objects of memory and imagination; and, at last, of pure intellection. When they are objects of memory and of imagination, they get the name of *phantasms*. When, by farther refinement, and being stripped of their particularities, they become objects of science, they are called *intelligible species;* so that every immediate object, whether of sense, of memory, of imagination, or of reasoning, must be some phantasm, or species, in the mind itself.

"The followers of Aristotle, especially the schoolmen, made great additions to this theory, which the author himself mentions very briefly, and with an appearance of reserve. They entered into large disquisitions, with regard to the sensible species, what kind of things they are; how they are sent forth by the object, and enter by the organs of the senses; how they are preserved and refined by various agents, called internal senses, concerning the number and offices of which they had many controversies."[1]

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[1] *Essays on the Intellectual Powers of Man*, p. 25. [4to, or authentic edition, the one uniformly quoted.]

The Platonists, too, although they denied the great doctrine of the Peripatetics, that all the objects of human understanding enter at first by the senses, and maintained that there exist eternal and immutable ideas, which were prior to the objects of sense, and about which all science was employed; yet appear to have agreed with them in their notions concerning the mode in which external objects are perceived. This Dr. Reid infers, partly from the silence of Aristotle about any difference between himself and his master upon this point, and partly from a passage in the seventh book of Plato's *Republic*, in which he compares the process of the mind, in perception, to that of a person in a cave, who sees not external objects themselves, but only their shadows.[1]

" Two thousand years after Plato, (continues Dr. Reid,) Mr. Locke, who studied the operations of the human mind so much, and with so great success, represents our manner of perceiving external objects by a similitude very much resembling that of the cave. ' Methinks,' says he, ' the understanding is not much unlike a closet wholly shut from light, with only some little opening left, to let in external visible resemblances or ideas of things without. Would the pictures coming into such a dark room but stay there, and lie so orderly as to be found upon occasion, it would very much resemble the understanding of a man, in reference to all objects of sight, and the ideas of them.'[2]

" Plato's subterranean cave, and Mr. Locke's dark closet, may be applied with ease to all the systems of perceptions that have been invented; for they all suppose that we perceive not external objects immediately, and that the immediate objects of perception are only certain shadows of the external objects. Those shadows or images which we immediately perceive, were by the ancients called *species*, *forms*, *phantasms*. Since the time of Descartes, they have commonly been called *ideas*;[3] and by Mr. Hume *impressions*. But all philosophers, from Plato to Mr. Hume, agree in this, that we do not perceive external objects immediately, and that the immediate object of perception must be some image present to the mind." On the whole, Dr. Reid remarks, "that in their sentiments concerning perception, there appears an uniformity which rarely occurs upon subjects of so abstruse a nature."[1]

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[1] *Essays on the Intellectual Powers of Man*, p. 99.

[2] Locke, *on Human Understanding*, book ii. chap. xi. § 17.

[3] See Note B.

The very short and imperfect view we have now taken of the common theories of perception, is almost sufficient, without any commentary, to establish the truth of the two general observations formerly made; for they all evidently proceed on a supposition, suggested by the phenomena of physics, that there must of necessity exist some medium of communication between the objects of perception and the percipient mind; and they all indicate a secret conviction in their authors, of the essential distinction between mind and matter; which, although not rendered by reflection sufficiently precise and satisfactory to shew them the absurdity of attempting to explain the mode of their communication, had yet such a degree of influence on their speculations, as to induce them to exhibit their supposed medium under as mysterious and ambiguous a form as possible, in order that it might remain doubtful to which of the two predicaments, of body or mind, they meant that it should be referred. By refining away the grosser qualities of matter, and by allusions to some of the most aërial and magical appearances it assumes, they endeavoured, as it were, to spiritualize the nature of their medium; while, at the same time, all their language concerning it implied such a reference to matter as was necessary for furnishing a plausible foundation for applying to it the received maxims of natural philosophy.

Another observation, too, which was formerly hinted at, is confirmed by the same historical review,—that, in the order of inquiry, the phenomena of vision had first engaged the attention of philosophers, and had suggested to them the greater part of their language with respect to perception in general; and that, in consequence of this circumstance, the common modes of expression on the subject, unphilosophical and fanciful at best, even when applied to the sense of seeing, are, in the case of all the other senses, obviously unintelligible and self-contradictory. "As to objects of sight," says Dr. Reid, "I understand what is meant by an image of their figure in the brain; but how shall we conceive an image of their colour, where there is absolute darkness? And as to all other objects of sense, except figure and colour, I am unable to conceive what is meant by an image of them. Let any man say what he means by an image of heat and cold, an image of hardness or softness, an image of sound, or smell, or taste. The word *image*, when applied to these objects of sense, has absolutely no meaning." This palpable imperfection in the ideal theory, has plainly taken rise from the natural order in which the phenomena of perception present themselves to the curiosity.

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[1] Reid, pp. 116, 117.

The mistakes which have been so long current in the world about this part of the human constitution, will, I hope, justify me for prosecuting the subject a little farther; in particular, for illustrating, at some length, the first of the two general remarks already referred to. This speculation I enter upon the more willingly, that it affords me an opportunity of stating some important principles with respect to the object and the limits of philosophical inquiry, to which I shall frequently have occasion to refer in the course of the following disquisitions.

SECT. II.—OF CERTAIN NATURAL PREJUDICES, WHICH SEEM TO HAVE GIVEN RISE TO THE COMMON THEORIES OF PERCEPTION.

It seems now to be pretty generally agreed among philosophers, that there is no instance in which we are able to perceive a necessary connexion between two successive events, or to comprehend in what manner the one proceeds from the other as its cause. From experience, indeed, we learn, that there are many events which are constantly conjoined, so that the one invariably follows the other: but it is possible, for any thing we know to the contrary, that this connexion, though a constant one as far as our observation has reached, may not be a necessary connexion; nay, it is possible that there may be no necessary connexions among any of the phenomena we see:

and, if there are any such connexions existing, we may rest assured that we shall never be able to discover them.[1]

I shall endeavour to shew, in another part of this work, that the doctrine I have now stated does not lead to these sceptical conclusions, concerning the existence of a First Cause, which an author of great ingenuity has attempted to deduce from it. At present, it is sufficient for my purpose to remark, that the word *cause* is used, both by philosophers and the vulgar, in two senses, which are widely different.—When it is said, that every change in nature indicates the operation of a cause, the word *cause* expresses something which is supposed to be necessarily connected with the change; and without which it could not have happened. This may be called the *metaphysical* meaning of the word; and such causes may be called *metaphysical* or *efficient causes.* In natural philosophy, however, when we speak of one thing being the cause of another, all that we mean is, that the two are constantly conjoined; so that when we see the one we may expect the other. These conjunctions we learn from experience alone; and without an acquaintance with them we could not accommodate our conduct to the established course of nature. The causes which are the objects of our investigation in natural philosophy, may, for the sake of distinction, be called *physical causes.*

I am very ready to acknowledge, that this doctrine, concerning the object of natural philosophy, is not altogether agreeable to popular prejudices. When a man unaccustomed to metaphysical speculations, is told, for the first time, that the science of physics gives us no information concerning the efficient causes of the phenomena about which it is employed, he feels some degree of surprise and mortification. The natural bias of the mind is surely to conceive physical events as somehow linked together; and material substances, as possessed of certain powers and virtues, which fit them to produce particular effects. That we have no reason to believe this to be the case, has been shown in a very particular manner by Mr. Hume, and by other writers; and must, indeed, appear evident to every person on a moment's reflection. It is a curious question, what gives rise to the prejudice?

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[1] See Note C

In stating the argument for the existence of the Deity, several modern philosophers have been at pains to illustrate that law of our nature which leads us to refer every change we perceive in the universe, to the operation of an efficient cause.[1] This reference is not the result of reasoning, but necessarily accompanies the perception, so as to render it impossible for us to see the change, without feeling a conviction of the operation of some cause by which it was produced; much in the same manner in which we find it to be impossible to conceive a sensation, without being impressed with a belief of the existence of a sentient being. Hence, I apprehend it is, that when we see two events constantly conjoined, we are led to associate the idea of causation, or efficiency, with the former, and to refer to it that power or energy by which the change was produced; in consequence of which association, we come to consider philosophy as the knowledge of efficient causes, and lose sight of the operation of mind, in producing the phenomena of nature. It is by an association somewhat similar, that we connect our sensations of colour with the primary qualities of body. A moment's reflection must satisfy any one, that the sensation of colour can only reside in a mind; and yet our natural bias is surely to connect colour with extension and figure, and to conceive *white*, *blue*, and *yellow*, as something spread over the surfaces of bodies. In the same way, we are led to associate with inanimate matter, the ideas of *power*, *force*, *energy*, and *causation*, which are all attributes of mind, and can exist in a mind only.

The bias of our nature is strengthened by another association. Our language, with respect to cause and effect, is borrowed by analogy from material objects. Some of these we see scattered about us, without any connexion between them; so that one of them may be removed from its place without disturbing the rest. We can, however, by means of some material *vinculum*, connect two or more objects together; so that whenever the one is moved, the others shall follow. In like manner, we see some events, which occasionally follow one another, and which are occasionally disjoined: we see others, where the succession is constant and invariable. The former we conceive to be analogous to objects which are loose, and unconnected with each other, and whose contiguity in place is owing merely to accidental position; the others to objects which are tied together by a material vinculum. Hence we transfer to such events, the same language which we apply to connected objects. We speak of a connexion between two events, and of a chain of causes and effects.[1]

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[1] See, in particular, Dr. Reid's *Essays on the Intellectual Powers of Man.*

That this language is merely analogical, and that we know nothing of physical events but the laws which regulate their succession, must, I think, appear very obvious to every person who takes the trouble to reflect on the subject; and yet it is certain, that it has misled the greater part of philosophers, and has had a surprising influence on the systems which they have formed in very different departments of science.

A few remarks, on some of the mistaken conclusions to which the vulgar notions concerning the connexions among physical events have given rise in natural philosophy, will illustrate clearly the origin of the common theories of perception; and will, at the same time, satisfy the reader with respect to the train of thought which suggested the foregoing observations.

The maxim, that nothing can act but where it is, and when it is, has always been admitted, with respect to metaphysical or efficient causes. "Whatever objects," says Mr. Hume, "are considered as causes or effects, are contiguous; and nothing can operate in a time or place, which is ever so little removed from those of its existence." "We may therefore (he adds) consider the relation of contiguity as essential to that of causation." But although this maxim should be admitted, with respect to causes which are efficient, and which, as such, are necessarily connected with their effects, there is surely no good reason for extending it to physical causes, of which we know nothing, but that they are the constant forerunners and signs of certain natural events. It may, indeed, be improper, according to this doctrine, to retain the expressions *cause* and *effect* in natural philosophy; but as long as the present language upon the subject continues in use, the propriety of its application, in any particular instance, does not depend on the contiguity of the two events in place or time, but solely on this question, whether the one event be the constant and invariable forerunner of the other, so that it may be considered as its infallible sign? Notwithstanding, however, the evidence of this conclusion, philosophers have in general proceeded upon a contrary supposition; and have discovered an unwillingness, even in physics, to call one event the cause of another, if the smallest interval of space or time existed between them. In the case of motion communicated by impulse, they have no scruple to call the impulse the cause of the motion; but they will not admit that one body can be the cause of motion in another, placed at a distance from it, unless a connexion is carried on between them, by means of some intervening medium.

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[1] See Note D.

It is unnecessary for me, after what has already been said, to employ any arguments to prove that the communication of motion by impulse, is as unaccountable as any other phenomenon in nature. Those philosophers who have attended at all to the subject, even they who have been the least sceptical with respect to cause and effect, and who have admitted a necessary connexion among physical events, have been forced to acknowledge that they could not discover any necessary connexion between impulse and motion. Hence, some of them have been led to conclude, that the impulse only rouses the activity of the body, and that the subsequent motion is the effect of this activity constantly exerted. "Motion," says one writer, "is action; and a continued motion implies a continued action." "The impulse is only the cause of the beginning of the motion; its continuance must be the effect of some other cause, which continues to act as long as the body continues to move." The attempt which another writer of great learning has made, to revive the ancient theory of mind, has arisen from a similar view of the subject before us. He could discover no necessary connexion between impulse and motion; and concluded that the impulse was only the *occasion* of the motion, the beginning and continuance of which he ascribed to the continued agency of the mind with which the body is animated.

Although, however, it be obvious on a moment's consideration, that we are as ignorant of the connexion between impulse and motion, as of the connexion between fire and any of the effects we see it produce, philosophers in every age seem to have considered the production of motion by impulse as almost the only physical fact which stood in need of no explanation. When we see one body attract another at a distance, our curiosity is roused, and we inquire how the connexion is carried on between them. But when we see a body begin to move in consequence of an impulse which another has given it, we inquire no farther; on the contrary, we think a fact sufficiently accounted for, if it can be shewn to be a case of impulse. This distinction between motion produced by impulse, and the other phenomena of nature, we are led in a great measure to make, by confounding together efficient and physical causes; and by applying to the latter, maxims which have properly a reference only to the former. Another circumstance, likewise, has probably considerable influence; that, as it is by means of impulse alone that we ourselves have a power of moving external objects, this fact is more familiar to us from our infancy than any other, and strikes us as a fact which is necessary, and which could not have happened otherwise. Some writers have even gone so far as to pretend that, although the experiment had never been made, the communication of motion by impulse might have been predicted by reasoning *a priori*.[1]

From the following passage, in one of Sir Isaac Newton's letters to Dr. Bentley, it appears that he supposed the communication of motion by impulse to be a phenomenon much more explicable, than that a connexion should subsist between two bodies placed at a distance from each other without any intervening medium. "It is inconceivable," says he, "that inanimate brute matter should, without the mediation of something else which is not material, operate upon, and affect other matter without mutual contact, as it must do, if gravitation, in the sense of Epicurus, be essential and inherent in it. And this is one reason why I desired that you would not ascribe innate gravity to me. That gravity should be innate, inherent, and essential to matter, so that one body may act on another, through a vacuum, without the mediation of anything else, by and through which their action and force may be conveyed from one to another, is to me so great an absurdity, that I believe no man who has, in philosophical matters, a competent faculty of thinking, can ever fall into it."

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[1] See *An Answer to Lord Kames's Essay on Motion;* by John Stewart, M.D.

With this passage I so far agree, as to allow that it is impossible to conceive in what manner one body acts on another at a distance, through a vacuum. But I cannot admit that it removes the difficulty to suppose that the two bodies are in actual contact. That one body may be the efficient cause of the motion of another body, placed at a distance from it, I do by no means assert; but only, that we have as good reason to believe that this may be possible, as to believe that any one natural event is the efficient cause of another.

I have been led into this very long disquisition, concerning efficient and physical causes, in order to point out the origin of the common theories of perception; all of which appear to me to have taken rise from the same prejudice, which I have already remarked to have had so extensive an influence upon the speculations of natural philosophers.

That, in the case of the perception of distant objects, we are naturally inclined to suspect either something to be emitted from the object to the organ of sense, or some medium to intervene between the object and organ, by means of which the former may communicate an impulse to the latter, appears from the common modes of expression on the subject, which are to be found in all languages. In our own, for example, we frequently hear the vulgar speak of light striking the eye; not in consequence of any philosophical theory they have been taught, but of their own crude and undirected speculations. Perhaps there are few men among those who have attended at all to the history of their own thoughts, who will not recollect the influence of these ideas, at a period of life long prior to the date of their philosophical studies. Nothing, indeed, can be conceived more simple and natural than their origin. When an object is placed in a certain situation with respect to a particular organ of the body, a perception arises in the mind: when the object is removed, the perception ceases.[1] Hence we are led to apprehend some connexion between the object and the perception; and as we are accustomed to believe that matter produces its effects by impulse, we conclude that there must be some material medium intervening between the object and organ, by means of which the impulse is communicated from the one to the other. That this is really the case, I do not mean to dispute. I think, however, it is evident that the existence of such a medium does not in any case appear *a priori;* and yet the natural prejudices of men have given rise to a universal belief of it, long before they were able to produce any good arguments in support of their opinion.

Nor is it only to account for the connexion between the object and the organ of sense, that philosophers have had recourse to the theory of impulse. They have imagined that the impression on the organ of sense is communicated to the mind in a similar manner. As one body produces a change in the state of another by impulse, so it has been supposed that the external object produces perception, (which is a change in the state of the mind,) first, by some material impression made on the organ of sense; and, secondly, by some material impression communicated from the organ to the mind, along the nerves and brain. These suppositions, indeed, as I had occasion already to hint, were, in the ancient theories of perception, rather implied than expressed; but by modern philosophers they have been stated in the form of explicit propositions.—

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[1] "Tum porro varios rerum sentimus odores,
Nec tamen ad nareis venienteis cernimus unquam:
Nec calidos æstus tuimur, nec frigora quimus
Usurpare oculis, nec voces cernere suemus;
Quæ tamen omnia corporeâ constare necesse 'st
Naturâ; quoniam sensus impellere possunt"
Lucret., lib. i. v. 299, *seq.*

"As to the manner," says Mr. Locke, "in which bodies produce ideas in us; it is manifestly by impulse, the only way which we can conceive bodies operate in."[1] And Sir Isaac Newton, although he does not speak of an *impulse* made on the mind, plainly proceeded on the principle that, as matter can only move matter by impulse, so no connexion could be carried on between matter and mind, unless the mind were *present* (as he expresses it) to the matter from which the last impression is communicated. "Is not," says he, "the sensorium of animals the place where the sentient substance is present, and to which the sensible species of things are brought, through the nerves and brain, that there they may be perceived by the mind present in that place?" Dr. Clarke has expressed the same idea still more confidently, in the following passage of one of his letters to Leibnitz. "Without being present[2] to the images of the things perceived, the soul could not possibly perceive them. A living substance can only there perceive where it is present. Nothing can any more act or be acted upon *where* it is not present, than it can *when* it is not." "How body acts upon mind, or mind upon body," says Dr. Porterfield,[3] "I know not; but this I am very certain of, that nothing can act or be acted upon where it is not, and, therefore, our mind can never perceive anything but its own proper modifications, and the various states of the sensorium to which it is present,—so that it is not the external sun and moon which are in the heavens which our mind perceives, but only their image or representation impressed upon the sensorium. How the soul of a seeing man sees these images, or how it receives those ideas from such agitations in the sensorium, I know not; but I am sure it can never perceive the external bodies themselves, to which it is not present."

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[1] *Essay on Human Understanding*, book ii. chap. viii. sect. 11.

[2] This phrase of "the soul *being present* to the images of external objects," has been used by many philosophers since the time of Descartes, evidently from a desire to avoid the absurdity of supposing, that images of extension and figure can exist in an unextended mind.

"Quæris," says Descartes himself, in replying to the objections of one of his antagonists, [Gassendi,] "quomodo existimem in me subjecto inextenso recipi posse speciem, ideamve corporis quod extensum est. Respondeo nullam speciem corpoream in mente recipi, sed puram intellectionem tam rei corporeæ quam incorporeæ fieri absque ulla specie corporea; ad imaginationem vero, quæ non nisi de rebus corporeis esse potest, opus quidem esse specie quæ sit verum corpus, et *ad quam mens se applicet*, sed non quæ in mente recipiatur."—[*Responsiones Quintæ*:—Iis quæ in sextam meditationem objecta sunt, § 4. See also *Objectiones et Responsiones Tertias.*—Resp. ad Object. ii. et alibi.—*Ed.*] It appears, therefore, that this philosopher supposed his images or ideas to exist in the *brain*, and not in the *mind*. Mr. Locke's expressions sometimes imply the one supposition, and sometimes the other.

[3] See his *Treatise on the Eye*, vol. ii. p. 356.

The same train of thinking[1] which had led these philosophers to suppose, that external objects are perceived by means of species proceeding from the object to the mind, or by means of some material impression made on the mind by the brain, has suggested to a late writer a very different theory—that the mind, when it perceives an external object, quits the body, and is present to the object of perception. "The mind," says the learned author of Ancient Metaphysics, "is not where the body is when it perceives what is distant from the body, either in time or place, because nothing can act but when and where it is. Now the mind acts when it perceives. The mind, therefore, of every animal who has memory or imagination acts, and by consequence exists, when and where the body is not, for it perceives objects distant from the body both in time and place."[2] Indeed, if we take for granted, that in perception the mind acts upon the object, or the object upon the mind, and, at the same time, admit the truth of the maxim, that "nothing can act but where it is," we must of necessity conclude, either that objects are perceived in a way similar to what is supposed in the ideal theory, or, that in every act of perception the soul quits the body, and is present to the object perceived. And accordingly, this alternative is expressly stated by Malebranche, who differs, however, from the writer last quoted in the choice which he makes of his hypothesis, and even rests his proof of its truth on the improbability of the other opinion. "I suppose," says he, "that every one will grant that we perceive not external objects immediately and of themselves. We see the sun, the stars, and an infinity of objects without us; and it is not at all likely that upon such occasions the soul sallies out of the body, in order to be present to the objects perceived. She sees them not therefore by themselves, and the immediate object of the mind is not the thing perceived, but something which is intimately united to the soul, and it is that which I call an idea; so that by the word idea, I understand nothing else here but that which is nearest to the mind when we perceive any object.—It ought to be carefully observed that, in order to the mind's perceiving any object, it is absolutely necessary that the idea of that object be actually present to it. Of this it is not possible to doubt. The things which the soul perceives are of two kinds. They are either in the soul, or they are without the soul. Those that are in the soul are its own thoughts, that is to say, all its different modifications. The soul has no need of ideas for perceiving these things. But with regard to things without the soul, we cannot perceive them but by means of ideas."

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[1] "The slightest philosophy," says Mr. Hume, "teaches us that nothing can ever be present to the mind but an image or perception, and that the senses are only the inlets through which these images are conveyed, without being able to produce any immediate intercourse between the mind and the object. The table which we see seems to diminish as we remove farther from it, but the real table, which exists independent of us, suffers no alteration; it was, therefore, nothing but its image which was present to the mind. These," he adds, "are the obvious dictates of reason."—*Essay on the Academical or Sceptical Philosophy.*

[2] *Ancient Metaphysics*, vol. ii. p. 306.

To these quotations, I shall add another, which contains the opinion of Buffon upon the subject. As I do not understand it so completely as to be able to translate it in a manner intelligible to myself, I shall transcribe it in the words of the author.

"L'âme s'unit intimement à tel objet qu'il lui plait, la distance, la grandeur, la figure, rien ne peut nuire à cette union lorsque l'âme la veut: elle se fait et se fait en un instant . . . la volonté n'est-elle donc qu'un mouvement corporel, et la contemplation un simple attouchement? Comment cet attouchement pourroit-il se faire sur un objet éloigné, sur un sujet abstrait? Comment pourroit-il s'opérer en un instant indivisible? A-t-on jamais conçu du mouvement, sans qu'il y eût de l'espace et du tems? La volonté, si c'est un mouvement, n'est donc pas un mouvement matériel, et si l'union de l'âme à son objet est un attouchement, un contact, cet attouchement ne se fait-il pas au loin ? ce contact n'est il pas une pénétration ?"

All these theories appear to me to have taken their rise, first, from an inattention to the proper object of philosophy, and an application of the same general maxims to physical and to efficient causes; and, secondly, from an apprehension that we understand the connexion between impulse and motion better than any other physical fact. From the detail which I have given, it appears how extensive an influence this prejudice has had on the inquiries both of natural philosophers and of metaphysicians.

In the foregoing reasonings, I have taken for granted that motion may be produced by impulse; and have contented myself with asserting, that this fact is not more explicable than the motions which the Newtonians refer to gravitation; or than the intercourse which is carried on between the mind and external objects in the case of perception. The truth however is, that some of the ablest philosophers in Europe are now satisfied, not only that there is no evidence of motion being in any case produced by the actual contact of two bodies, but that very strong proofs may be given of the absolute impossibility of such a supposition; and hence they have been led to conclude, that all the effects which are commonly referred to impulse, arise from a power of repulsion, extending to a small and imperceptible distance round every element of matter. If this doctrine shall be confirmed by future speculations in physics, it must appear to be a curious circumstance in the history of science, that philosophers have been so long occupied in attempting to trace all the phenomena of matter, and even some of the phenomena of mind, to a general fact, which, upon an accurate examination, is found to have no existence. I do not make this observation with a view to depreciate the labours of these philosophers; for although the system of Boscovich were completely established, it would not diminish, in the smallest degree, the value of those physical inquiries which have proceeded on the common hypothesis with respect to impulse. The laws which regulate the communication of motion in the case of apparent contact, are the most general facts we observe among the terrestrial phenomena; and they are, of all physical events, those which are the most familiar to us from our earliest infancy. It was therefore not only natural, but proper, that philosophers should begin their physical inquiries with attempting to refer to these, (which are the most general laws of nature, exposed to the examination of our senses,) the particular appearances they wished to explain. And if ever the theory of Boscovich should be completely established, it will have no other effect than to resolve these laws into some principle still more general, without affecting the solidity of the common doctrine so far as it goes.

SECT. III.—OF DR. REID'S SPECULATIONS ON THE SUBJECT OF PERCEPTION.

It was chiefly in consequence of the sceptical conclusions which Bishop Berkeley and Mr. Hume had deduced from the ancient theories of perception, that Dr. Reid was led to call them in question; and he appears to me to have shewn, in the most satisfactory manner, not only that they are perfectly hypothetical, but that the suppositions they involve are absurd and impossible. His reasonings on this part of our constitution, undoubtedly form the most important accession which the philosophy of the human mind has received since the time of Mr. Locke.

But although Dr. Reid has been at much pains to overturn the old ideal system, he has not ventured to substitute any hypothesis of his own in its place. And indeed he was too well acquainted with the limits prescribed to our philosophical inquiries, to think of indulging his curiosity in such unprofitable speculations. All, therefore, that he is to be understood as aiming at, in his inquiries concerning our perceptive powers, is to give a precise state of the fact, divested of all theoretical expressions; in order to prevent philosophers from imposing on themselves any longer by words without meaning, and to extort from them an acknowledgment, that with respect to the process of nature in perception, they are no less ignorant than the vulgar.

According to this view of Dr. Reid's reasonings on the subject of perception, the purpose to which they are subservient may appear to some to be of no very considerable importance; but the truth is, that one of the most valuable effects of genuine philosophy, is to remind us of the limited powers of the human understanding; and to revive those natural feelings of wonder and admiration at the spectacle of the universe, which are apt to languish in consequence of long familiarity. The most profound discoveries which are placed within the reach of our researches, lead to a confession of human ignorance; for while they flatter the pride of man, and increase his power, by enabling him to trace the simple and beautiful laws by which physical events are regulated, they call his attention at the same time to those general and ultimate facts which bound the narrow circle of his knowledge, and which by evincing to him the operation of powers, whose nature must for ever remain unknown, serve to remind him of the insufficiency of his faculties to penetrate the secrets of the universe. Wherever we direct our inquiries,—whether to the anatomy and physiology of animals, to the growth of vegetables, to the chemical attractions and repulsions, or to the motions of the heavenly bodies,—we perpetually perceive the effects of powers which cannot belong to matter. To a certain length we are able to proceed; but in every research we meet with a line, which no industry nor ingenuity can pass. It is a line too, which is marked with sufficient distinctness, and which no man now thinks of passing who has just views of the nature and object of philosophy. It forms the separation between that field which falls under the survey of the physical inquirer, and that unknown region, of which, though it was necessary that we should be assured of the existence in order to lay a foundation for the doctrines of natural theology, it hath not pleased the Author of the universe to reveal to us the wonders in this infant state of our being. It was, in fact, chiefly by tracing out this line that Lord Bacon did so much service to science.

Beside this effect, which is common to all our philosophical pursuits, of impressing the mind with a sense of that mysterious agency or efficiency into which general laws must be resolved; they have a tendency, in many cases, to counteract the influence of habit in weakening those emotions of wonder and of curiosity, which the appearances of nature are so admirably fitted to excite. For this purpose it is necessary, either to lead the attention to facts which are calculated to strike by their novelty, or to present familiar appearances in a new light: and such are the obvious effects of philosophical inquiries, sometimes extending our views to objects which are removed from vulgar observation, and sometimes correcting our first apprehensions with respect to ordinary events. The communication of motion by impulse, (as I already hinted,) is as unaccountable as any phenomenon we know; and yet most men are disposed to consider it as a fact which does not result from will but from necessity. To such men it may be useful to direct their attention to the universal law of gravitation, which although not more wonderful in itself than the common effects of impulse, is more fitted by its novelty to awaken their attention and to excite their curiosity. If the theory of Boscovich should ever be established on a satisfactory foundation, it would have this tendency in a still more remarkable degree, by teaching us that the communication of motion by impulse (which we are apt to consider as a necessary truth) has no existence whatever; and that every case in which it appears to our senses to take place, is a phenomenon no less inexplicable than that principle of attraction which binds together the most remote parts of the universe.

If such, however, be the effects of our philosophical pursuits when successfully conducted, it must be confessed that the tendency of imperfect or erroneous theories is widely different. By a specious solution of insuperable difficulties, they so dazzle and bewilder the understanding, as at once to prevent us from advancing with steadiness towards the limit of human knowledge, and from perceiving the existence of a region beyond it into which philosophy is not permitted to enter. In such cases, it is the business of genuine science to unmask the imposture, and to point out clearly, both to the learned and to the vulgar, what reason can, and what she cannot, accomplish. This, I apprehend, has been done with respect to the history of our perceptions, in the most satisfactory manner, by Dr. Reid. When a person little accustomed to metaphysical speculations is told that, in the case of volition, there are certain invisible fluids propagated from the mind to the organ which is moved; and that in the case of perception, the existence and qualities of the external object are made known to us by means of species, or phantasms, or images, which are present to the mind in the sensorium, he is apt to conclude that the intercourse between mind and matter is much less mysterious than he had supposed; and that, although these expressions may not convey to him any very distinct meaning, their import is perfectly understood by philosophers. It is now, I think, pretty generally acknowledged by physiologists, that the influence of the will over the body is a mystery which has never yet been unfolded; but, singular as it may appear, Dr. Reid was the first person who had courage to lay completely aside all the common hypothetical language concerning perception, and to exhibit the difficulty in all its magnitude by a plain statement of the fact. To what then, it may be asked, does this statement amount? Merely to this, that the mind is so formed that certain impressions produced on our organs of sense by external objects, are followed by correspondent sensations, and that these sensations (which have no more resemblance to the qualities of matter than the words of a language have to the things they denote) are followed by a perception of the existence and qualities of the bodies by which the impressions are made; that all the steps of this process are equally incomprehensible; and that, for anything we can prove to the contrary, the connexion between the sensation and the perception, as well as that between the impression and the sensation, may be both arbitrary; that it is therefore by no means impossible that our sensations may be merely the occasions on which the correspondent perceptions are excited; and that, at any rate, the consideration of these sensations, which are attributes of mind, can throw no light on the manner in which we acquire our knowledge of the existence and qualities of body. From this view of the subject it follows, that it is the external objects themselves, and not any species or images of these objects, that the mind perceives; and that although by the constitution of our nature certain sensations are rendered the constant antecedents of our perceptions, yet it is just as difficult to explain how our perceptions are obtained by their means, as it would be upon the supposition that the mind were all at once inspired with them, without any concomitant sensations whatever.[1]

These remarks are general, and apply to all our various perceptions, and they evidently strike at the root of all the common theories upon the subject. The laws, however, which regulate these perceptions are different in the case of the different senses, and form a very curious object of philosophical inquiry. Those in particular which regulate the acquired perceptions of sight lead to some very interesting and important speculations, and, I think, have never yet been explained in a manner completely satisfactory. To treat of them in detail, does not fall under the plan of this work; but I shall have occasion to make a few remarks on them in the chapter on Conception.

In opposition to what I have here observed on the importance of Dr. Reid's speculations concerning our perceptive powers, I am sensible it may be urged that they amount merely to a negative discovery; and it is possible that some may even be forward to remark, that it was unnecessary to employ so much labour and ingenuity as he has done, to overthrow an hypothesis of which a plain account would have been a sufficient refutation. To such persons I would beg leave to suggest, that although, in consequence of the juster views in pneumatology which now begin to prevail, (chiefly, I believe, in consequence of Dr. Reid's writings,) the ideal system may appear to many readers unphilosophical and puerile; yet the case was very different when this author entered upon his inquiries: and I may even venture to add, that few positive discoveries, in the whole history of science, can be mentioned, which found a juster claim to literary reputation, than to have detected, so clearly and unanswerably, the fallacy of an hypothesis which has descended to us from the earliest ages of philosophy; and which, in modern times, has not only served to Berkeley and Hume as the basis of their sceptical systems, but was adopted as an indisputable truth by Locke, by Clarke, and by Newton.

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[1] [This language has been objected to, as bordering on mysticism, whereas, in truth, it is merely a statement of *a fact*, accompanied with an acknowledgment of our total ignorance of the manner in which it is to be explained. Is it any thing more than an extension to the phenomena of perception, of what Mr. Hume has so justly and so profoundly remarked concerning the phenomena of voluntary motion? "IS THERE ANY PRINCIPLE IN ALL NATURE MORE MYSTERIOUS THAN THE UNION OF SOUL AND BODY, BY WHICH A SUPPOSED SPIRITUAL SUBSTANCE ACQUIRES SUCH AN INFLUENCE OVER A MATERIAL ONE, THAT THE MOST REFINED THOUGHT IS ABLE TO ACTUATE THE GROSSEST MATTER? WERE WE EMPOWERED, BY A SECRET WISH, TO REMOVE MOUNTAINS, OR CONTROL THE PLANETS IN THEIR ORBITS, THIS EXTENSIVE AUTHORITY WOULD NOT BE MORE EXTRAORDINARY NOR MORE BEYOND OUR COMPREHENSION." I do not know that Mr. Hume was ever charged with any tendency to mysticism; and yet the two cases seem to me to be perfectly analogous.]

SECT. IV.—OF THE ORIGIN OF OUR KNOWLEDGE.

The philosophers who endeavoured to explain the operations of the human mind by the theory of ideas, and who took for granted, that in every exertion of thought there exists in the mind some object distinct from the thinking substance, were naturally led to inquire whence these ideas derive their origin; in particular, whether they are conveyed to the mind from without by means of the senses, or form part of its original furniture?

With respect to this question, the opinions of the ancients were various; but as the influence of these opinions on the prevailing systems of the present age is not very considerable, it is not necessary, for any of the purposes I have in view in this work, to consider them particularly. The moderns, too, have been much divided on the subject; some holding, with

Descartes, that the mind is furnished with certain innate ideas; others, with Mr. Locke, that all our ideas may be traced from sensation and reflection; and many, (especially among the later metaphysicians in France,) that they may be all traced from sensation alone.

Of these theories, that of Mr. Locke deserves more particularly our attention; as it has served as the basis of most of the metaphysical systems which have appeared since his time, and as the difference between it and the theory which derives all our ideas from sensation alone, is rather apparent than real.

In order to convey a just notion of Mr. Locke's doctrine concerning the origin of our ideas, it is necessary to remark, that he refers to sensation all the ideas which we are supposed to receive by the external senses; our ideas, for example, of colours, of sounds, of hardness, of extension, of motion, and, in short, of all the qualities and modes of matter: to reflection, the ideas of our own mental operations which we derive from consciousness; our ideas, for example, of memory, of imagination, of volition, of pleasure, and of pain. These two sources, according to him, furnish us with all our simple ideas, and the only power which the mind possesses over them, is to perform certain operations, in the way of composition, abstraction, generalization, &c., on the materials which it thus collects in the course of its experience. The laudable desire of Mr. Locke to introduce precision and perspicuity into metaphysical speculations, and his anxiety to guard the mind against error in general, naturally prepossessed him in favour of a doctrine which, when compared with those of his predecessors, was intelligible and simple; and which, by suggesting a method, apparently easy and palpable, of analyzing our knowledge into its elementary principles, seemed to furnish an antidote against those prejudices which had been favoured by the hypothesis of innate ideas. It is now a considerable time since this fundamental principle of Mr. Locke's system began to lose its authority in England; and the sceptical conclusions which it had been employed to support by some later writers, furnished its opponents with very plausible arguments against it. The late learned Mr. Harris, in particular, frequently mentions this doctrine of Mr. Locke, and always in terms of high indignation. "Mark," says he, in one passage, "the order of things, according to the account of our later metaphysicians. First comes that huge body, the sensible world. Then this, and its attributes, beget sensible ideas. Then, out of sensible ideas, by a kind of lopping and pruning, are made ideas intelligible, whether specific or general. Thus, should they admit that mind was coeval with body, yet till the body gave it ideas, and awakened its dormant powers, it could at best have been nothing more than a sort of dead capacity, for innate ideas it could not possibly have any." And, in another passage: "For my own part, when I read the detail about sensation and reflection, and am taught the process at large how my ideas are all generated, I seem to view the human soul in the light of a crucible, where truths are produced by a kind of logical chemistry."

If Dr. Reid's reasonings on the subject of ideas be admitted, all these speculations with respect to their origin fall to the ground; and the question to which they relate is reduced merely to a question of fact,—concerning the occasions on which the mind is first led to form those simple notions into which our thoughts may be analyzed, and which may be considered as the principles or elements of human knowledge. With respect to many of these notions, this inquiry involves no difficulty. No one, for example, can be at a loss to ascertain the occasions on which the notions of colours and sounds are first formed by the mind; for these notions are confined to individuals who are possessed of particular senses, and cannot, by any combination of words, be conveyed to those who never enjoyed the use of them. The history of our notions of extension and figure, (which may be suggested to the mind by the exercise either of sight or of touch,) is not altogether so obvious; and accordingly, it has been the subject of various controversies. To trace the origin of these, and of our other simple notions with respect to the qualities of matter; or, in other words, to describe the occasions on which, by the laws of our nature, they are suggested to the mind, is one of the leading objects of Dr. Reid's inquiry, in his analysis of our external senses; in which he carefully avoids every hypothesis with respect to the inexplicable phenomena of perception and of thought, and confines himself scrupulously to a literal statement of facts.—Similar inquiries to these may be proposed, concerning the occasions on which we form the notions of *time,* of *motion,* of *number,* of *causation,* and an infinite variety of others. Thus, it has been observed by different authors, that every perception of change suggests to the mind the notion of a *cause,* without which that change could not have happened. Dr. Reid remarks that, without the faculty of memory, our perceptive powers could never have led us to form the idea of *motion.* I shall afterwards shew, in the sequel of this work, that without the same faculty of memory we never could have formed the notion of *time;* and that without the faculty of abstraction, we could not have formed the notion of *number.* Such inquiries with respect to the origin of our knowledge are curious and important; and if conducted with judgment, they may lead to the most certain conclusions, as they aim at nothing more than to ascertain facts, which, although not obvious to superficial observers, may yet be discovered by patient investigation.

From the remarks which have been just made on our notions of time, of motion, and of number, it is evident that the inquiry concerning the origin of human knowledge cannot possibly be discussed at the commencement of such a work as this; but that it must be resumed in different parts of it, as those faculties of the mind come under our view, with which the formation of our different simple notions is connected.

With respect to the general question, Whether all our knowledge may be ultimately traced from our sensations? I shall only observe at present, that the opinion we form concerning it, is of much less consequence than is commonly supposed. That the mind cannot, without the grossest absurdity, be considered in the light of a receptacle which is gradually furnished from without, by materials introduced by the channel of the senses; nor in that of a *tabula rasa,* upon which copies or resemblances of things external are imprinted,—I have already shown at sufficient length. Although, therefore, we should acquiesce in the conclusion, that without our organs of sense, the mind must have remained destitute of knowledge, this concession could have no tendency whatever to favour the principles of materialism; as it implies nothing more than that the impressions made on our senses by external objects, furnish the occasions on which the mind, by the laws of its constitution, is led to perceive the qualities of the material world, and to exert all the different modifications of thought of which it is capable.

From the very slight view of the subject, however, which has been already given, it is sufficiently evident, that this doctrine which refers the origin of all our knowledge to the occasions furnished by sense, must be received with many limitations. That those ideas, which Mr. Locke calls ideas of reflection, (or, in other words, the notions which we form of the subjects of our own consciousness,) are not suggested to the mind immediately by the sensations arising from the use of our organs of perception, is granted on all hands; and, therefore, the amount of the doctrine now mentioned, is nothing more than this: that the first occasions on which our various intellectual faculties are exercised, are furnished by the impressions made on our organs of sense; and consequently, that without these impressions, it would have been impossible for us to arrive at the knowledge of our faculties. Agreeably to this explanation of the doctrine, it may undoubtedly be said with plausibility, (and, I am inclined to believe, with truth,) that the occasions on which all our notions are formed, are furnished either immediately or ultimately by sense; but, if I am not much mistaken, this is not the meaning which is commonly annexed to the doctrine, either by its advocates or their opponents. One thing at least is obvious, that in this sense it does not lead to those consequences which have interested one party of philosophers in its defence, and another in its refutation.

There is another very important consideration which deserves our attention in this argument: that, even on the supposition that certain impressions on our organs of sense are necessary to awaken the mind to a consciousness of its own existence, and to give rise to the exercise of its various faculties; yet all this might have happened, without our having any knowledge of the qualities, or even of the existence, of the material world. To facilitate the admission of this proposition, let us suppose a being formed in every other respect like man, but possessed of no senses, excepting those of hearing and smelling. I make choice of these two senses, because it is obvious, that by means of them alone we never could have arrived at the knowledge of the primary qualities of matter, or even of the existence of things external. All that we could possibly have inferred from our occasional sensations of smell and sound, would have been, that there existed some unknown cause by which they were produced.

Let us suppose then, a particular sensation to be excited in the mind of such a being. The moment this happens, he must necessarily acquire the knowledge of two facts at once: that of the existence of *the sensation*, and that of *his own existence*, as a sentient being. After the sensation is at an end, he can *remember* he felt it; he can *conceive* that he feels it again. If he has felt a variety of different sensations, he can compare them together in respect of the pleasure or the pain they have afforded him, and will naturally *desire* the return of the agreeable sensations, and be *afraid* of the return of those which were painful. If the sensations of smell and sound are both excited in his mind at the same time, he can *attend* to either of them he chooses, and withdraw his attention from the other; or he can withdraw his *attention* from both, and fix it on some sensation he has felt formerly. In this manner he might be led, merely by sensations existing in his mind, and conveying to him no information concerning matter, to exercise many of his most important faculties; and amidst all these different modifications and operations of his mind, he would feel, with irresistible conviction, that they all belong to one and the same sentient and intelligent being; or, in other words, that they are all modifications and operations of himself. I say nothing at present of the various simple notions (or simple ideas, as they are commonly called) which would arise in his mind; for example, the ideas of *number*, of *duration*, of *cause* and *effect*, of *personal identity*, all of which, though perfectly unlike his sensations, could not fail to be suggested by means of them. Such a being, then, might know all that we know of mind at present, and as his language would be appropriated to mind solely, and not borrowed by analogy from material phenomena, he would even possess important advantages over us in conducting the study of pneumatology.

From these observations it sufficiently appears what is the real amount of the celebrated doctrine, which refers the origin of all our knowlege to our sensations; and that, even granting it to be true, (which for my own part I am disposed to do, in the sense in which I have now explained it,) it would by no means follow from it, that our notions of the operations of mind, nor even many of those notions which are commonly suggested to us, *in the first instance*, by the perception of external objects, are *necessarily subsequent* to our knowledge of the qualities, or even of the existence of matter.

The remarks which I have offered on this doctrine will not appear superfluous to those who recollect that, although it has for many years past been a subject of controversy in England, it continues still to be implicitly adopted by the best philosophical writers in France; and that it has been employed by some of them to support the system of materialism, and by others to shew, that the intellectual distinctions between man and brutes arise entirely from the differences in their animal organization, and in their powers of external perception.

CHAPTER II.

OF ATTENTION.

When we are deeply engaged in conversation, or occupied with any speculation that is interesting to the mind, the surrounding objects either do not produce in us the perceptions they are fitted to excite, or these perceptions are instantly forgotten. A clock, for example, may strike in the same room with us, without our being able next moment to recollect whether we heard it or not.

In these and similar cases, I believe, it is commonly taken for granted that we really do not perceive the external object.

From some analogous facts, however, I am inclined to suspect that this opinion is not well-founded. A person who falls asleep at church, and is suddenly awakened, is unable to recollect the last words spoken by the preacher, or even to recollect that he was speaking at all. And yet, that sleep does not suspend entirely the powers of perception may be inferred from this, that if the preacher were to make a sudden pause in his discourse, every person in the congregation who was asleep would instantly awake. In this case, therefore, it appears that a person may be conscious of a perception without being able afterwards to recollect it.

Many other instances of the same general fact might be produced. When we read a book, (especially in a language which is not perfectly familiar to us,) we must perceive successively every different letter, and must afterwards combine these letters into syllables and words, before we comprehend the meaning of a sentence. This process, however, passes through the mind without leaving any trace in the memory.

It has been proved by optical writers, that, in perceiving the distances of visible objects from the eye, there is a judgment of the understanding antecedent to the perception. In some cases this judgment is founded on a variety of circumstances combined together—the conformation of the organ necessary for distinct vision—the inclination of the optic axes—the distinctness or indistinctness of the minute parts of the object—the distances of the intervening objects from each other, and from the eye; and perhaps on other circumstances besides these; and yet, in consequence of our familiarity with such processes from our earliest infancy, the perception seems to be instantaneous, and it requires much reasoning to convince persons unaccustomed to philosophical speculations, that the fact is otherwise.

Another instance of a still more familiar nature, may be of use for the farther illustration of the same subject. It is well known that our thoughts do not succeed each other at random, but according to certain laws of association, which modern philosophers have been at much pains to investigate. It frequently, however, happens, particularly when the mind is animated by conversation, that it makes a sudden transition from one subject to another, which at first view appears to be very remote from it, and that it requires a considerable degree of reflection, to enable the person himself by whom the transition was made, to ascertain what were the intermediate ideas. A curious instance of such a sudden transition is mentioned by Hobbes in his Leviathan. "In a company," says he, "in which the conversation turned on the civil war, what could be conceived more impertinent than for a person to ask abruptly, What was the value of a Roman denarius? On a little reflection, however, I was easily able to trace the train of thought which suggested the question: for, the original subject of discourse naturally introduced the history of the king, and of the treachery of those who surrendered his person to his enemies; this again introduced the treachery of Judas Iscariot, and the sum of money which he received for his reward. And all this train of ideas," says Hobbes, "passed through the mind of the speaker in a twinkling, in consequence of the velocity of thought." It is by no means improbable, that if the speaker himself had been interrogated about the connexion of ideas which led him aside from the original topic of discourse, he would have found himself at first at a loss for an answer.

In the instances which have been last mentioned, we have also a proof, that a perception, or an idea, which passes through the mind, without leaving any trace in the memory, may yet serve to introduce other ideas connected with it by the laws of association. Other proofs of this important fact shall be mentioned afterwards.

When a perception or an idea passes through the mind, without our being able to recollect it next moment, the vulgar themselves ascribe our want of memory to a want of attention. Thus, in the instance already mentioned of the clock, a person upon observing that the minute hand had just passed twelve, would naturally say, that he did not attend to the clock when it was striking. There seems, therefore, to be a certain effort of mind upon which, even in the judgment of the vulgar, memory in some measure depends, and which they distinguish by the name of attention.

The connexion between attention and memory has been remarked by many authors. "Nec dubium est," says Quintilian, speaking of memory, "quin plurimum in hac parte valeat mentis intentio, et velut acies luminum a prospectu rerum quas intuetur non aversa." The same observation has been made by Locke,[1] and by most of the writers on the subject of education.

But although the connexion between attention and memory has been frequently remarked in general terms, I do not recollect that the power of attention has been mentioned by any of the writers on pneumatology, in their enumeration of the faculties of the mind;[2] nor has it been considered by any one, so far as I know, as of sufficient importance to deserve a particular examination. Helvetius, indeed, in his very ingenious work, *De l'Esprit*, has entitled one of his chapters, *De l'inégale capacité d'Attention;* but what he considers under this article, is chiefly that capacity of patient inquiry, (or, as he calls it, *une attention suivie*,) upon which philosophical genius seems in a great measure to depend. He has also remarked,[1] with the writers already mentioned, that the impression which any thing makes on the memory, depends much on the degree of attention we give to it; but he has taken no notice of that effort which is absolutely essential to the lowest degree of memory. It is this effort that I propose to consider at present, not those different degrees of attention which imprint things more or less deeply on the mind, but that act or effort without which we have no recollection or memory whatever.

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[1] "Memory depends much on attention and repetition."—Locke's *Essay*, book i. chap. x.

[2] Some important observations on the subject of attention occur in different parts of Dr. Reid's writings, particularly in his *Essays on the Intellectual Powers of Man*, p. 62; and in his *Essays on the Active Powers of Man*, p. 78, *et seq.*—To this ingenious author we are indebted for the remark, that attention to things external, is properly

With respect to the nature of this effort, it is perhaps impossible for us to obtain much satisfaction. We often speak of greater and less degrees of attention, and, I believe, in these cases, conceive the mind (if I may use the expression) to exert itself with different degrees of energy. I am doubtful, however, if this expression conveys any distinct meaning. For my own part, I am inclined to suppose, (though, I would by no means be understood to speak with confidence,) that it is essential to memory, that the perception or the idea that we would wish to remember, should remain in the mind for a certain space of time, and should be contemplated by it exclusively of every thing else; and that attention consists partly (perhaps entirely) in the effort of the mind, to detain the idea or the

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called *observation;* and attention to the subjects of our consciousness, *reflection.* He has also explained the causes of the peculiar difficulties which accompany this last exertion of the mind, and which form the chief obstacles to the progress of pneumatology. I shall have occasion, in another part of this work, to treat of habits of inattention in general, and to suggest some practical hints with respect to the culture both of the powers of observation and reflection. The view which I propose to take of attention at present, is extremely limited, and is intended merely to comprehend such general principles as are necessary to prepare the reader for the chapters which are to follow.

[1] "C'est l'attention, plus ou moins grande, qui grave plus ou moins profondément les objets dans la mémoire."

perception, and to exclude the other objects that solicit its notice.

Notwithstanding, however, the difficulty of ascertaining in what this act of the mind consists, every person must be satisfied of its reality from his own consciousness, and of its essential connexion with the power of memory. I have already mentioned several instances of ideas passing through the mind, without our being able to recollect them next moment. These instances were produced, merely to illustrate the meaning I annex to the word attention, and to recall to the recollection of the reader a few striking cases, in which the possibility of our carrying on a process of thought, which we are unable to attend to at the time, or to remember afterwards, is acknowledged in the received systems of philosophy. I shall now mention some other phenomena, which appear to me to be very similar to these, and to be explicable in the same manner, although they have commonly been referred to very different principles.

The wonderful effect of practice in the formation of habits, has been often, and justly, taken notice of as one of the most curious circumstances in the human constitution. A mechanical operation, for example, which we at first performed with the utmost difficulty, comes in time to be so familiar to us, that we are able to perform it without the smallest danger of mistake; even while the attention appears to be completely engaged with other subjects. The truth seems to be, that in consequence of the association of ideas, the different steps of the process present themselves successively to the thoughts, without any recollection on our part, and with a degree of rapidity proportioned to the length of our experience, so as to save us entirely the trouble of hesitation and reflection, by giving us every moment a precise and steady notion of the effect to be produced.[1]

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[1] I do not mean by this observation to call in question the effects which the practice of the mechanical arts has on the muscles of the body. These are as indisputable as its effects on the mind. A man who has been accustomed to write with his right hand, can write better with his left hand, than another

In the case of some operations which are very familiar to us, we find ourselves unable to attend to, or to recollect the acts of the will by which they were preceded; and accordingly, some philosophers of great eminence have called in question the existence of such volitions, and have represented our habitual actions as involuntary and mechanical. But surely the circumstance of our inability to recollect our volitions, does not authorize us to dispute their possibility, any more than our inability to attend to the process of the mind in estimating the distance of an object from the eye, authorizes us to affirm that the perception is instantaneous. Nor does it add any force to the objection to urge, that there are instances in which we find it difficult, or perhaps impossible, to check our habitual actions by a contrary volition. For it must be remembered, that this contrary volition does not remain with us steadily during the whole operation; but is merely a general intention or resolution, which is banished from the mind, as soon as the occasion presents itself with which the habitual train of our thoughts and volitions is associated.[1]

It may indeed be said, that these observations only prove the possibility that our habitual actions may be voluntary. But if this be admitted, nothing more can well be required; for surely if these phenomena are clearly explicable from the known and acknowledged laws of the human mind, it would be unphilosophical to devise a new principle, on purpose to account for

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who never practised the art at all; but he cannot write so well with his left hand as with his right. The effects of practice, therefore, it should seem, are produced partly on the mind, and partly on the body.

[1] The solution of this difficulty, which is given by Dr. Porterfield, is somewhat curious.

"Such is the power of custom and habit, that many actions which are no doubt voluntary, and proceed from our mind, are in certain circumstances rendered necessary, so as to appear altogether mechanical, and independent of our wills; but it does not from thence follow that our mind is not concerned in such motions, but only that it has imposed upon itself a law, whereby it regulates and governs them to the greatest advantage. In all this there is nothing of intrinsical necessity; the mind is at absolute liberty to act as it pleases, but being a wise agent, it cannot choose but to act in conformity to this law, by reason of the utility and advantage that arises from this way of acting."—*Treatise on the Eye*, vol. ii. p. 17.

them. The doctrine, therefore, which I have laid down with respect to the nature of habits, is by no means founded on hypothesis, as has been objected to me by some of my friends; but, on the contrary, the charge of hypothesis falls on those who attempt to explain them, by saying that they are *mechanical* or *automatic ;* a doctrine which, if it is at all intelligible, must be understood as implying the existence of some law of our constitution, which has been hitherto unobserved by philosophers; and to which, I believe, it will be difficult to find anything analogous in our constitution.

In the foregoing observations I have had in view a favourite doctrine of Dr. Hartley's, which has been maintained also of late by a much higher authority,—I mean Dr. Reid.

" Habit,"[1] says this ingenious author, " differs from instinct, not in its nature, but in its origin ; the last being natural, the first acquired. Both operate without will or intention, without thought, and therefore may be called mechanical principles." In another passage,[2] he expresses himself thus: " I conceive it to be a part of our constitution, that what we have been accustomed to do, we acquire not only a facility but a proneness to do on like occasions ; so that it requires a particular will or effort to forbear it, but to do it requires, very often, no will at all."

The same doctrine is laid down still more explicitly by Dr. Hartley.

" Suppose," says he, " a person who has a perfectly voluntary command over his fingers, to begin to learn to play on the harpsichord. The first step is to move his fingers from key to key with a slow motion, looking at the notes, and exerting an express act of volition in every motion. By degrees the motions cling to one another, and to the impressions of the notes, in the way of association, so often mentioned, the acts of volition growing less and less express all the time, till at last they become evanescent and imperceptible. For an expert performer will play from notes, or ideas laid up in the memory, and at the same time carry on a quite different train of thoughts in his mind; or even hold a conversation with another. Whence we may conclude, that there is no intervention of the idea, or state of mind called Will."[1] Cases of this sort Hartley calls "transitions of voluntary actions into automatic ones."

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[1] *Essays on the Active Powers of Man*, p. 128.

[2] Ibid. p. 130.

I cannot help thinking it more philosophical to suppose, that those actions which are originally voluntary, always continue so; although, in the case of operations which are become habitual in consequence of long practice, we may not be able to recollect every different volition. Thus, in the case of a performer on the harpsichord, I apprehend that there is an act of the will preceding every motion of every finger, although he may not be able to recollect these volitions afterwards, and although he may during the time of his performance be employed in carrying on a separate train of thought. For it must be remarked, that the most rapid performer can, when he pleases, play so slowly as to be able to attend to, and to recollect, every separate act of his will in the various movements of his fingers; and he can gradually accelerate the rate of his execution till he is unable to recollect these acts. Now, in this instance, one of two suppositions must be made; the one is, that the operations in the two cases are carried on precisely in the same manner, and differ only in the degree of rapidity; and that when this rapidity exceeds a certain rate, the acts of the will are too momentary to leave any impression on the memory. The other is, that when the rapidity exceeds a certain rate, the operation is taken entirely out of our hands, and is carried on by some unknown power, of the nature of which we are as ignorant as of the cause of the circulation of the blood, or of the motion of the intestines.[2] The last supposition seems to me to be somewhat similar to that of a man who should maintain, that although a body projected with a moderate velocity is seen to pass through all the intermediate spaces in moving from one place to another, yet we are not entitled to conclude that this happens when the body moves so quickly as to become invisible to the eye. The former supposition is supported by the analogy of many other facts in our constitution. Of some of these I have already taken notice, and it would be easy to add to the number. An expert accountant, for example, can sum up almost with a single glance of his eye, a long column of figures. He can tell the sum with unerring certainty, while at the same time he is unable to recollect any one of the figures of which that sum is composed; and yet nobody doubts that each of these figures has passed through his mind, or supposes that when the rapidity of the process becomes so great that he is unable to recollect the various steps of it, he obtains the result by a sort of inspiration. This last supposition would be perfectly analogous to Dr. Hartley's doctrine concerning the nature of our habitual exertions.

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[1] Vol. i. pp. 108, 109.

[2] This seems to have been the opinion of Bishop Berkeley, whose doctrine concerning the nature of our habitual actions coincides with that of the two philosophers already quoted. "It must be owned we are not conscious of the systole and diastole of the heart, or the motion of the diaphragm. It may not, nevertheless, be thence inferred, that unknowing nature can act regularly as well as ourselves. The true inference is, that the self-thinking individual, or human person, is not the real author of those natural motions. And, in fact, no man blames himself if they are wrong, or values himself if they are right. The same may be said of the fingers of a musician, which some object to be moved by habit, which understands not; it

The only plausible objection which, I think, can be offered to the principles I have endeavoured to establish on this subject, is founded on the astonishing and almost incredible rapidity they necessarily suppose in our intellectual operations. When a person, for example, reads aloud, there must, according to this doctrine, be a separate volition preceding the articulation of every letter; and it has been found by actual trial,[1] that it is

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being evident that what is done by rule, must proceed from something that understands the rule; therefore, if not from the musician himself, from some other active intelligence; the same, perhaps, which governs bees and spiders, and moves the limbs of those who walk in their sleep."—See a Treatise, entitled *Siris*, [§ 257.]

[1] Incredibili velocitate peraguntur et repetuntur musculorum contractiones. Docent cursus præsertim quadrupedum; vel lingua, quæ quadringenta vocabula, forte bis mille literas, exprimit, spatio temporis quod *minutum* vocare solemus, quamvis ad multas literas exprimendas plures musculorum contractiones requirantur.—*Conspectus Medicinæ Theoreticæ Auct.* Jac. Gregory. Editio altera, p. 171.

[In Gibbon's Posthumous Works, I find a statement still more curious, as it relates to the number of words pronounced in a given time by a speaker, in the course of an extempore speech. "As I was waiting in the manager's possible to pronounce about two thousand letters in a minute. Is it reasonable to suppose that the mind is capable of so many different acts in an interval of time so very inconsiderable?

With respect to this objection it may be observed, in the

box at Mr. Hastings' trial in Westminster Hall, I had the curiosity to inquire of the short-hand writer how many words a ready and rapid orator might pronounce in an hour? From 7000 to 7500 was the answer. The medium of 7200 will afford 120 words in each second," [minute?]—Vol. i. p. 172.

In the instance, however, here referred to by Gibbon, the business of articulation forms but a very inconsiderable part of the voluntary exertions the speaker is incessantly making. *One* of his efforts, and a very complicated and wonderful one, is taken notice of by Quintilian in the following passage: "But, after all, what is extemporary speaking, but a vigorous exertion of memory?[*] For when we are speaking of one thing, we are premeditating another that we are about to speak. This premeditation is carried forwards to other objects, and whatever discoveries it makes, it deposits them in the memory; and thus the invention having placed it there, the memory becomes a kind of intermediate instrument that hands it to the elocution." ("Quid? extemporalis oratio non alio mihi videtur mentis vigore constare. Nam dum alia dicimus, quæ dicturi sumus, intuenda sunt: ita cum semper cogitatio ultra id quod est, longius quærit, quicquid interim reperit, quodammodo apud memoriam deponit, quod illa quasi media quædam manus acceptum ab inventione tradit elocutioni.")—*Institut.*, lib. xi. cap. ii.

A much more comprehensive view, however, of this astonishingly complicated exertion of the mind is given by Dr. Reid.

"From what cause does it happen that a good speaker no sooner conceives what he would express, than the letters, syllables, and words arrange themselves according to innumerable rules of speech, while *he* never thinks of these rules? He means to express certain sentiments; in order to do this properly, a selection must be made of the materials out of many thousands. He makes this selection without any expense of time or thought. The materials selected must be arranged in a particular order, according to innumerable rules of grammar, rhetoric, and logic, and accompanied with a particular tone and emphasis. He does all this as it were by inspiration, without thinking of any of those rules, and without breaking one of them."

"This art, if it were not so common, would appear more wonderful than that a man should dance blindfold amidst a thousand burning ploughshares without being burnt. Yet all this may be done by habit."—*Essays on the Active Powers of Man*, 4to edit., p. 119.

It must be owned, that it is difficult to conceive that, in such a case as this, there is a separate act of the will accompanying all the intellectual operations here described; and therefore it is not surprising that some philosophers should have attempted to keep the difficulty out of sight, by the use of one of these convenient phrases to which it is not possible to annex a clear or a precise idea. This, at least, I must confess, is the case with me, with respect to the words *mechanical*, *automatical*, and *organical*, as employed on this

[*] And of *attention*, he should have added.

first place, that all arguments against the foregoing doctrine with respect to our habitual exertions, in so far as they are founded on the inconceivable rapidity which they suppose in our intellectual operations, apply equally to the common doc-

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I have been led into these observations by a paper which I have lately met with of M. Fred. Cuvier's in the *Mémoires du Muséum d'Histoire Naturelle*, tom. x. 1823. It is entitled *Examen de quelques Observations de M. Dugald Stewart qui tendent à détruire l'analogie des phénomènes de l'Instinct avec ceux de l'Habitude.* From my great respect for the talents and learning of the author, I was induced to give my reasonings in this chapter, (against which all his strictures are pointed,) as thorough, and, I think, as impartial a re-examination as I was able to bestow upon them; without, however, discovering any flaw in them that seemed to me to require correction. Some of M. Cuvier's objections I foresaw at the time I published the First Edition, and accordingly I observed in page 132, that "after all I have said, *it is possible* that some may be disposed rather to dispute the common theory of vision, than admit the conclusions I have endeavoured to establish." I cannot help suspecting that M. Cuvier is one of this number, and that a secret scepticism in his mind with respect to Berkeley's Theory is at the bottom of the difficulty he finds in admitting those doctrines of mine which he has attempted to overthrow. He has not, indeed, directly avowed this scepticism, but I leave the reader to judge whether he has not given some ground for my suspicions by the conclusion of the following sentence: "Il paroit bien certain que c'est le toucher qui nous apprend à connoître les distances où nous sommes des objets; lorsque l'aveugle de Cheselden eut recouvré la vue, tous les objets lui paroissoient être dans ses yeux, *du moins on l'assure.*"—(*Mémoires du Muséum*, &c., tom. x. p. 257, Paris, 1823.) I cannot enter here into a detailed examination of his strictures; but I must beg M. Cuvier's particular attention to the case of the extempore speaker mentioned in the beginning of this note. Admitting that the words *automatic*, *mechanical*, or *organic*, convey some idea when applied to a harpsichord player executing a piece of music that he has often played before, have they any meaning when applied to what passed through the mind of Mr. Sheridan during the speech which Mr. Gibbon heard him pronounce?

As to the tendency of my observations to destroy the analogy between the phenomena of Instinct and of Habit, I must acknowledge I cannot perceive how it should be thought to afford any explanation of the phenomena of the former, to compare them with those of the latter, when we consider that habit not only implies experience, but an experience so constant and so long continued as to become a second nature. Can anything be imagined more opposite *in its origin* to Instinct? M. Cuvier conceives himself to be adopting in this instance the Theory of Reid. "Parmi les explications qui ont été suggérées pour ces actions instinctives, la seule qui nous paroisse fondée sur des vraisemblances suffisantes, et qui soit admissible, est celle de Reid," &c. In proof of this he quotes the following words from the French translation of that author:—"L'Habitude diffère de l'Instinct, non par sa nature, mais par son origine. Ces deux principes opèrent sans volonté ou intention, sans pensée, et peuvent en conséquence être appelés principes métrine concerning our perception of distance by the eye. But this is not all. To what does the supposition amount which is considered as so incredible? Only to this, that the mind is so formed as to be able to carry on certain intellectual processes in intervals of time too short to be estimated by our faculties; a supposition which, so far from being extravagant, is supported by the analogy of many of our most certain conclusions in natural philosophy. The discoveries made by the microscope have laid open to our senses a world of wonders, the existence of which hardly any man would have admitted upon inferior evidence; and have gradually prepared the way for those physical speculations, which explain some of the most extraordinary phenomena of nature by means of modifications of matter far too subtile for the examination of our organs. Why, then, should it be considered as unphilosophical, after having demonstrated the existence of various intellectual processes which escape our attention in consequence of their rapidity to carry the supposition a little farther, in order to bring under the known laws of the human constitution a class of mental operations, which must otherwise remain perfectly inexplicable? Surely our ideas of time are merely relative, as well as our ideas of extension; nor is there any good reason for doubting that, if our powers of attention and memory were more perfect than they are, so as to give us the same advantage in examining rapid events which the microscope gives for examining minute portions of extension, they would enlarge our views with respect to the intellectual world no less than that instrument has with respect to the material.

It may contribute to remove, still more completely, some of the scruples which are naturally suggested by the foregoing doctrine, to remark, that as the great use of attention and memory is to enable us to treasure up the results of our experience and reflection for the future regulation of our conduct, it would

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caniques." In the former of these sentences Dr. Reid's opinion agrees, not with that of M. Cuvier, but with mine. In the latter, he has asserted a proposition which it is one main object of this chapter to refute, and in the refutation of which, I must own, I think I have been successful.]

have answered no purpose for the author of our nature to have extended their province to those intervals of time which we have no occasion to estimate in the common business of life. All the intellectual processes I have mentioned are subservient to some particular end, either of perception or of action; and it would have been perfectly superfluous, if, after this end were gained, the steps which are instrumental in bringing it about were all treasured up in the memory. Such a constitution of our nature would have had no other effect but to store the mind with a variety of useless particulars.

After all I have said, it will perhaps be still thought that some of the reasonings I have offered are too hypothetical; and it is even possible that some may be disposed rather to dispute the common theory of vision, than admit the conclusions I have endeavoured to establish. To such readers the following considerations may be of use, as they afford a more palpable instance, than any I have yet mentioned, of the rapidity with which the thoughts may be trained, by practice, to shift from one thing to another.

When an equilibrist balances a rod upon his finger, not only the attention of his mind, but the observation of his eye, is constantly requisite. It is evident that the part of his body which supports the object is never wholly at rest; otherwise the object would no more stand upon it, than if placed in the same position upon a table. The equilibrist, therefore, must watch, in the very beginning, every inclination of the object from the proper position, in order to counteract this inclination by a contrary movement. In this manner, the object has never time to fall in any one direction, and is supported in a way somewhat analogous to that in which a top is supported on a pivot, by being made to spin upon an axis. That a person should be able to do this in the case of a single object, is curious; but that he should be able to balance in the same way two or three upon different parts of his body, and at the same time balance himself on a small cord or wire, is indeed wonderful. Nor is it possible to conceive that, in such an instance, the mind, at one and the same moment, attends to these different equilibriums;

for it is not merely the attention which is requisite, but the eye. We must therefore conclude, that both of these are directed successively to the different equilibriums, but change from one object to another with such velocity, that the effect, with respect to the experiment, is the same as if they were directed to all the objects constantly.

It is worth while to remark farther, with respect to this last illustration, that it affords direct evidence of the possibility of our exerting acts of the will which we are unable to recollect; for the movements of the equilibrist do not succeed each other in a regular order, like those of the harpsichord player, in performing a piece of music, but must in every instance be regulated by accidents, which may vary in numberless respects, and which, indeed, must vary in numberless respects every time he repeats the experiment: and therefore, although, in the former case, we should suppose, with Hartley, "that the motions cling to one another, and to the impressions of the notes, in the way of association, without any intervention of the state of mind called will," yet, in this instance, even the possibility of such a supposition is directly contradicted by the fact.

The dexterity of jugglers (which, by the way, merits a greater degree of attention from philosophers than it has yet attracted) affords many curious illustrations of the same doctrine.[1] The whole of this art seems to me to be founded on this principle,—that it is possible for a person, by long practice, to acquire a power, not only of carrying on certain intellectual processes more quickly than other men, (for all the feats of legerdemain suppose the exercise of observation, thought, and volition,) but of performing a variety of movements with the hand, before the eyes of a company, in an interval of time too short to enable the spectators to exert that degree of attention which is necessary to lay a foundation for memory.[2]

As some philosophers have disputed the influence of the will in the case of habits, so others (particularly Stahl and his followers) have gone into the opposite extreme, by referring to the will all the vital motions. If it be admitted (say these philosophers) that there are instances in which we will an effect, without being able to make it an object of attention, is it not possible, that what we commonly call the vital and involuntary motions, may be the consequences of our own thought and volition? But there is surely a wide difference between those cases, in which the mind was at first conscious of thought and volition, and gradually lost the power of attending to them, from the growing rapidity of the intellectual process; and a case in which the effect itself is perfectly unknown to the bulk of mankind, even after they arrive at maturity, and in which this effect has continued to take place with the most perfect regularity from the very beginning of their animal existence, and long before the first dawn of either reflection or experience.

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[1] [" Rursus, inter ingenia et manus hominis, non prorsus contemnenda sunt præstigiæ et jocularia. Nonnulla enim ex istis, licet sint usu levia et ludicra, tamen informatione valida esse possunt."—*Nov. Org.* lib. ii. aph. xxxi.]

[2] See Note E.

Some of the followers of Stahl have stated the fact rather inaccurately, even with respect to our habitual exertions. Thus Dr. Porterfield, in his *Treatise on the Eye*, is at pains to prove that the soul may think and will without knowledge or consciousness. But this, I own, is to me inconceivable. The true state of the fact, I apprehend, is, that the mind may think and will without attending to its thoughts and volitions, so as to be able afterwards to recollect them. Nor is this merely a verbal criticism; for there is an important difference between consciousness and attention, which it is very necessary to keep in view, in order to think upon this subject with any degree of precision.[1] The one is an involuntary state of the mind; the other is a voluntary act: the one has no immediate connexion with memory; but the other is so essentially subservient to it, that, without some degree of it, the ideas and perceptions which pass through the mind seem to leave no trace behind them.

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[1] The distinction between attention and consciousness is pointed out by Dr. Reid, in his *Essays on the Intellectual Powers of Man*, p. 60. "Attention is a voluntary act; it requires an active exertion to begin and to continue it; and it may be continued as long as we will; but consciousness is involuntary, and of no continuance, changing with every thought." The same author has remarked, that these two operations of the mind have been frequently confounded by philosophers, and particularly by Mr. Locke.

When two persons are speaking to us at once, we can attend to either of them at pleasure, without being much disturbed by the other. If we attempt to listen to both, we can understand neither. The fact seems to be, that when we attend constantly to one of the speakers, the words spoken by the other make no impression on the memory, in consequence of our not attending to them, and affect us as little as if they had not been uttered. This power, however, of the mind to attend to either speaker at pleasure, supposes that it is, at one and the same time, conscious of the sensations which both produce.

Another well-known fact may be of use in illustrating the same distinction. A person who accidentally loses his sight, never fails to improve gradually in the sensibility of his touch. —Now, there are only two ways of explaining this. The one is, that in consequence of the loss of the one sense, some change takes place in the physical constitution of the body, so as to improve a different organ of perception. The other, that the mind gradually acquires a power of attending to and remembering those slighter sensations of which it was formerly conscious, but which from our habits of inattention, made no impression whatever on the memory. No one surely can hesitate for a moment in pronouncing which of these two suppositions is the more philosophical.

Having treated at considerable length of those habits in which both mind and body are concerned, I proceed to make a few remarks on some phenomena which are purely intellectual, and which I think are explicable on the same principles with those which have been now under our review.

Every person who has studied the elements of geometry, must have observed many cases in which the truth of a theorem struck him the moment he heard the enunciation. I do not allude to those theorems the truth of which is obvious almost to sense; such as, that any two sides of a triangle are greater than the third side, or that one circle cannot cut another circle in more than two points, but to some propositions with respect to quantity considered abstractly, (to some, for example, in the fifth book of Euclid,) which almost every student would be ready to admit without a demonstration. These propositions, however, do by no means belong to the class of axioms, for their evidence does not strike every person equally, but requires a certain degree of quickness to perceive it. At the same time, it frequently happens that, although we are convinced the proposition is true, we cannot state immediately to others upon what our conviction is founded. In such cases, I think it highly probable that, before we give our assent to the theorem, a process of thought[1] has passed through the mind, but has passed through it so quickly, that we cannot without difficulty arrest our ideas in their rapid succession, and state them to others in their proper and logical order. It is some confirmation of this theory, that there are no propositions of which it is more difficult to give a legitimate proof from first principles, than of those which are only removed a few steps from the class of axioms; and that those men who are the most remarkable for their quick perception of mathematical truth, are seldom clear and methodical in communicating their knowledge to others.—A man of a moderate degree of quickness, the very first time he is made acquainted with the fundamental principles of the method of fluxions, or of the method of prime and ultimate ratios, is almost instantaneously satisfied of their truth, yet how difficult is it to demonstrate these principles rigorously!

What I have now said with respect to mathematics, may be applied in a great measure to the other branches of knowledge. How many questions daily occur to us in morals, in politics, and in common life, in considering which we almost instantaneously see where the truth lies, although we are not in a condition all at once to explain the grounds of our conviction! Indeed, I apprehend there are few, even among those who have devoted themselves to study, but who have not been habituated to communicate their knowledge to others, who are able to exhibit in their natural order the different steps of any investigation by which they have been led to form a particular conclusion. The common observation, therefore, that an obscure elocution always indicates an imperfect knowledge of the subject, although it may perhaps be true with respect to men who have cultivated the art of speaking, is by no means to be relied on as a general rule, in judging of the talents of those whose speculations have been carried on with a view merely to their own private satisfaction.

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[1] Of the nature of these processes of thought, I shall treat fully in another part of my work, under the article of Reasoning. I have expressed myself concerning them in this chapter in as general terms as possible.

In the course of my own experience, I have heard of more than one instance, of men who, without any mathematical education, were able on a little reflection to give a solution of any simple algebraical problem; and who, at the same time, were perfectly incapable of explaining by what steps they obtained the result. In these cases, we have a direct proof of the possibility of investigating even truths which are pretty remote by an intellectual process, which, as soon as it is finished, vanishes almost entirely from the memory. It is probable, that something of the same kind takes place much more frequently in the other branches of knowledge, in which our reasonings consist commonly but of a few steps. Indeed, I am inclined to think that it is in this way that by far the greater part of our speculative conclusions are formed.

There is no talent, I apprehend, so essential to a public speaker, as to be able to state clearly every different step of those trains of thought by which he himself was led to the conclusions he wishes to establish. Much may be here done by study and experience. Even in those cases in which the truth of a proposition seems to strike us instantaneously, although we may not be able at first to discover the media of proof, we seldom fail in the discovery by perseverance. Nothing contributes so much to form this talent as the study of metaphysics; not the absurd metaphysics of the schools, but that study which has the operations of the mind for its object. By habituating us to reflect on the subjects of our consciousness, it enables us to retard in a considerable degree the current of thought, to arrest many of those ideas which would otherwise escape our notice, and to render the arguments which we employ for the conviction of others, an exact transcript of those trains of inquiry and reasoning which originally led us to form our opinions.

These observations lead me to take notice of an important distinction between the intellectual habits of men of speculation and of action. The latter, who are under a necessity of thinking and deciding on the spur of the occasion, are led to cultivate as much as possible a quickness in their mental operations, and sometimes acquire it in so great a degree, that their judgments seem to be almost intuitive. To those, on the other hand, who have not merely to form opinions for themselves, but to communicate them to others, it is necessary to retard the train of thought as it passes in the mind, so as to be able afterwards to recollect every different step of the process,—a habit which, in some cases, has such an influence on the intellectual powers, that there are men who, even in their private speculations, not only make use of words as an instrument of thought, but form these words into regular sentences.

It may perhaps appear at first a paradoxical observation, that one great employment of philosophers in a refined age, is to bring to light and arrange those rapid and confused trains of thought, which appear from the structure of languages and from the monuments of ancient laws and governments to have passed through the minds of men in the most remote and unenlightened periods. In proof, however, of this, it is sufficient to mention the systematical analogy which we find, to a certain degree, running through the structure of the most imperfect tongues, (for example, in the formation of the different parts of the verbs,) and those general principles which the philosophical lawyer traces amidst an apparent chaos of precedents and statutes. In the language, too, of the rudest tribe, we find words transferred from one subject to another, which indicate in the mind of the individual who first made the transference some perception of resemblance or of analogy. Such transferences can hardly be ascribed to accident, but may be considered as proofs that the analogies which the philosopher afterwards points out between the objects which are distinguished by the same name, had been perceived by the inventors of language, although it is more than probable that they never expressed them in words, nor could even have explained them if they had been questioned on the subject.

Nor will this appear a bold or incredible supposition, if we reflect on the sagacity and ingenuity which savages, and even peasants, discover in overcoming the difficulties which occur in their situation. They do not indeed engage in long processes of abstract reasoning for which they have no inclination, and which it is impossible to carry on without the use of a cultivated and a copious language; but, when pressed by present circumstances, they combine means to accomplish particular ends, in a manner which indicates the exercise both of invention and of reasoning. It is probable that such processes are carried on in their minds with much less assistance from language than a philosopher would derive on a similar occasion; and it is almost certain that they would find themselves perfectly capable [incapable ?]. of communicating to others the steps by which they were led to their conclusions. In consequence of these circumstances, the attainments of the human mind in its ruder state perish with the individual without being recorded in writing, or perhaps expressed in words; and we are left to infer them indirectly from the structure of language, or from the monuments of ancient customs and institutions.

When a train of thought leads to any interesting conclusion, or excites any pleasant feeling, it becomes peculiarly difficult to arrest our fleeting ideas; because the mind, when once it has felt the pleasure, has little inclination to retrace the steps by which it arrived at it. This is one great cause of the difficulty attending philosophical criticism. When a critic explains to us why we are pleased with any particular beauty, or offended with any defect, it is evident that if his theory be just, the circumstances which he points out as the foundation of our pleasure or uneasiness, must have occurred to our minds before we were pleased with the beauty or offended with the defect. In such cases, it sometimes happens when a critic has been fortunate in his theory, that we recognise at first sight our old ideas, and without any farther consideration are ready to bear testimony to the truth from our own consciousness. So very difficult, however, is it to attend to the ideas which excite such feelings, that it often appears to be doubtful whether a theory be right or wrong; and that where there is every reason to believe that the pleasure is produced in all men in the same way, different critics adopt different theories with respect to its cause. It is long practice alone, joined to what is commonly called a metaphysical turn of mind, (by which I think is chiefly to be understood a capacity of reflecting on the subjects of our consciousness,) that can render such efforts of attention easy. Exquisite sensibility, so far from being useful in this species of criticism, both gives a disrelish for the study and disqualifies for pursuing it.

Before we leave the subject of Attention, it is proper to take notice of a question which has been stated with respect to it; whether we have the power of attending to more than one thing at one and the same instant; or, in other words, whether we can attend at one and the same instant to objects which we can attend to separately?[1] This question has, if I am not mistaken, been already decided by several philosophers in the negative; and I acknowledge, for my own part, that although their opinion has not only been called in question by others, but even treated with some degree of contempt as altogether hypothetical, it appears to me to be the most reasonable and philosophical that we can form on the subject.

There is, indeed, a great variety of cases, in which the mind apparently exerts different acts of attention at once; but from the instances which have already been mentioned, of the astonishing rapidity of thought, it is obvious that all this may be explained without supposing these acts to be co-existent; and I may even venture to add, it may all be explained in the most satisfactory manner without ascribing to our intellectual operations a greater degree of rapidity than that with which we know from the fact that they are sometimes carried on. The effect of practice in increasing this capacity of apparently attending to different things at once, renders this explanation of the phenomenon in question more probable than any other.

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[1] I have added this explanation to obviate the question, what is meant by *one* object?

The case of the equilibrist and rope-dancer already mentioned, is particularly favourable to this explanation, as it affords direct evidence of the possibility of the mind's exerting different successive acts in an interval of time so short, as to produce the same sensible effect as if they had been exerted at one and the same moment. In this case, indeed, the rapidity of thought is so remarkable, that if the different acts of the mind were not all necessarily accompanied with different movements of the eye, there can be no reason for doubting that the philosophers, whose doctrine I am now controverting, would have asserted that they are all mathematically co-existent.

Upon a question, however, of this sort, which does not admit of a perfectly direct appeal to the fact, I would by no means be understood to decide with confidence; and, therefore, I should wish the conclusions I am now to state, to be received as only conditionally established. They are necessary and obvious consequences of the general principle, "that the mind can only attend to one thing at once;" but must stand or fall with the truth of that supposition.

It is commonly understood, I believe, that in a concert of music a good ear can attend to the different parts of the music separately, or can attend to them all at once, and feel the full effect of the harmony. If the doctrine, however, which I have endeavoured to establish, be admitted, it will follow, that in the latter case the mind is constantly varying its attention from the one part of the music to the other, and that its operations are so rapid, as to give us no perception of an interval of time.

The same doctrine leads to some curious conclusions with respect to vision. Suppose the eye to be fixed in a particular position, and the picture of an object to be painted on the retina. Does the mind perceive the complete figure of the object at once, or is this perception the result of the various perceptions we have of the different points in the outline? With respect to this question, the principles already stated lead me to conclude, that the mind does at one and the same time perceive every point in the outline of the object, (provided the whole of it be painted on the retina at the same instant,) for perception, like consciousness, is an involuntary operation. As no two points, however, of the outline are in the same direction, every point by itself constitutes just as distinct an object of attention to the mind, as if it were separated by an interval of empty space from all the rest. If the doctrine, therefore, formerly stated be just, it is impossible for the mind to attend to more than one of these points at once; and as the perception of the figure of the object implies a knowledge of the relative situation of the different points with respect to each other, we must conclude, that the perception of figure by the eye, is the result of a number of different acts of attention. These acts of attention, however, are performed with such rapidity, that the effect with respect to us, is the same as if the perception were instantaneous.

In farther confirmation of this reasoning, it may be remarked, that if the perception of visible figure were an immediate consequence of the picture on the retina, we should have, at the first glance, as distinct an idea of a figure of a thousand sides, as of a triangle or a square. The truth is, that when the figure is very simple, the process of the mind is so rapid, that the perception seems to be instantaneous; but when the sides are multiplied beyond a certain number, the interval of time necessary for these different acts of attention becomes perceptible.

It may perhaps be asked what I mean by a *point* in the outline of a figure, and what it is that constitutes this point *one* object of attention? The answer, I apprehend is, that this point is the *minimum visibile*. If the point be less, we cannot perceive it; if it be greater, it is not all seen in one direction.

If these observations be admitted, it will follow, that without the faculty of memory, we could have had no perception of visible figure.[1]

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[1] [I have been accused of overlooking, in the preceding chapter, a very important distinction between Voluntary and Involuntary attention. In some cases, it is said, attention attaches itself spontaneously to its object. In others it requires a painful effort to keep it steady,—nay, when we *will* to fix it on one subject, we find it perpetually wandering to another. The *fact* on which the criticism is founded must unquestionably be admitted, but the conclusion drawn from it is nevertheless erroneous. It proceeds on a vague use of the words *voluntary* and *involuntary*. These words, as well as the substantive *will*, are often but very inaccurately employed to express a general *purpose* or *intention*, as well as that state of mind which is the immediate antecedent of action. Thus, if I resolve to keep my eyes steadily open, I may, according to common modes of speech, be said to *will* to keep them open, and if, in consequence of some sudden alarm, I should depart from my purpose, the winking of my eyelids may be said to be *involuntary*. And yet in strict philosophical propriety, the winking of my eyelids is an act purely voluntary; an operation which I *will* to perform, in consequence of the effect which my alarm has to banish my general purpose or resolution from my mind. The case is perfectly parallel with respect to attention. When I am anxious to attend to a particular subject, I am apt to say that I *will* to attend to it, and when I forget my purpose, that my inattention is *involuntary;* whereas the fact is, that the unintended distraction, like the *unintended winking of the eyelids*, was the effect of a particular volition of the mind, exerted in consequence of a momentary forgetfulness of my *general purpose*. Indeed, to those who are at all accustomed to precision in the use of language, the phrase *involuntary attention* must appear a manifest contradiction in terms.]

CHAPTER III.

OF CONCEPTION.

By Conception, I mean that power of the mind which enables it to form a notion of an absent object of perception, or of a sensation which it has formerly felt. I do not contend that this is exclusively the proper meaning of the word, but I think that the faculty which I have now defined deserves to be distinguished by an appropriated name.

Conception is often confounded with other powers. When a painter makes a picture of a friend who is absent or dead, he is commonly said to paint from memory; and the expression is sufficiently correct for common conversation. But in an analysis of the mind, there is ground for a distinction. The power of conception enables him to make the features of his friend an object of thought, so as to copy the resemblance; the power of memory recognises these features as a former object of perception. Every act of memory includes an idea of the past: conception implies no idea of time whatever.[1]

According to this view of the matter, the word *conception* corresponds to what was called by the schoolmen *simple apprehension;* with this difference only, that they included under this name our apprehension of general propositions; whereas I should wish to limit the application of the word *conception* to our sensations and the objects of our perceptions. Dr. Reid, in his *Inquiry*, substitutes the word *conception* instead of the simple apprehension of the schools, and employs it in the same extensive signification. I think it may contribute to make our ideas more distinct, to restrict its meaning;—and for such a restriction, we have the authority of philosophers in a case perfectly analogous. In ordinary language, we apply the same word *perception* to the knowledge which we have by our senses of external objects, and to our knowledge of speculative truth; and yet an author would be justly censured, who should treat of these two operations of the mind under the same article of perception. I apprehend there is as wide a difference between the conception of a truth, and the conception of an absent object of sense, as between the perception of a tree, and the perception of a mathematical theorem. I have, therefore, taken the liberty to distinguish also the two former operations of the mind; and under the article of *conception,* shall confine myself to that faculty whose province it is to enable us to form a notion of our past sensations, or of the objects of sense that we have formerly perceived.

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[1] Shakespeare calls this power "the mind's eye."

> "*Hamlet.*—My father! methinks I see my father.
> *Horatio.*—Where, my lord?
> *Hamlet.*—In my mind's eye, Horatio."—*Hamlet*, Act i. Scene 4.

Conception is frequently used as synonymous with imagination. Dr. Reid says, that " imagination, in its proper sense, signifies a lively conception of objects of sight. This is a talent (he remarks) of importance to poets and orators, and deserves a proper name, on account of its connexion with their arts." . . . . He adds, "that imagination is distinguished from conception, as a part from a whole."*

I shall not inquire, at present, into the proper English meaning of the words *conception* and *imagination.* In a study such as this, so far removed from the common purposes of speech, some latitude may perhaps be allowed in the use of words; provided only we define accurately those we employ, and adhere to our own definitions.

The business of conception, according to the account I have given of it, is to present us with an exact transcript of what we have felt or perceived. But we have, moreover, a power of modifying our conceptions, by combining the parts of different ones together, so as to form new wholes of our own creation. I shall employ the word *imagination* to express this power;

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* [*Essays on the Intellectual Powers*, pp. 396, 397.—*Works*, p. 375.]

and I apprehend that this is the proper sense of the word, if imagination be the power which gives birth to the productions of the poet and the painter. This is not a simple faculty of the mind. It presupposes abstraction, to separate from each other qualities and circumstances which have been perceived in conjunction; and also judgment and taste, to direct us in forming the combinations. If they are made wholly at random, they are proofs of insanity.[1]

The first remarkable fact which strikes us with respect to conception is, that we can conceive the objects of some senses much more easily than those of others. Thus we can conceive an absent visible object, such as a building that is familiar to us, much more easily than a particular sound, a particular taste, or a particular pain, which we have formerly felt. It is probable, however, that this power might be improved in the case of some of our senses. Few people, I believe, are able to form a very distinct conception of sounds; and yet it is certain that, by practice, a person may acquire a power of amusing himself with reading written music. And in the case of poetical numbers, it is universally known that a reader may enjoy the harmony of the verse, without articulating the words, even in a whisper. In such cases, I take for granted that our pleasure arises from a very strong conception of the sounds which we have been accustomed to associate with particular written characters.

The peculiarity in the case of visible objects seems to arise from this, that when we think of a sound or of a taste, the object of our conception is one single detached sensation; whereas every visible object is complex, and the conception which we form of it as a whole is aided by the association of ideas. To perceive the force of this observation, it is necessary to recollect what was formerly said on the subject of attention. As we cannot at one instant attend to every point of the picture of an object on the retina, so I apprehend we cannot at one instant form a conception of the whole of any visible object, but that our conception of the object as a whole is the result of many conceptions. The association of ideas connects the different parts together, and presents them to the mind in their proper arrangement, and the various relations which these parts bear to one another in point of situation, contribute greatly to strengthen the associations. It is some confirmation of this theory, that it is more easy to remember a succession of sounds, than any particular sound which we have heard detached and unconnected.

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[1] In common discourse, we often use the phrase of *thinking upon an object*, to express what I here call the *conception* of it. In the following passage, Shakespeare uses the former of these phrases, and the words *imagination* and *apprehension* as synonymous with each other:—

> "Who can hold a fire in his hand,
> By thinking on the frosty Caucasus?
> Or cloy the hungry edge of appetite,
> By bare imagination of a feast?
> Or wallow naked in December's snow,
> By thinking on fantastic summer's heat?
> Oh no! the apprehension of the good
> Gives but the greater feeling to the worse."
>
> *King Richard II.*, Act i. Scene 3.

The power of conceiving visible objects, like all other powers that depend on the association of ideas, may be wonderfully improved by habit. A person accustomed to drawing retains a much more perfect notion of a building or of a landscape which he has seen, than onē who has never practised that art. A portrait painter traces the form of the human body from memory, with as little exertion of attention as he employs in writing the letters which compose his name.

In the power of conceiving colours, too, there are striking differences among individuals; and, indeed, I am inclined to suspect that, in the greater number of instances, the supposed defects of sight in this respect ought to be ascribed rather to a defect in the power of conception. One thing is certain, that we often see men who are perfectly sensible of the difference between two colours when they are presented to them, who cannot give names to these colours with confidence when they see them apart, and are perhaps apt to confound the one with the other. Such men, it should seem, feel the sensation of colour like other men when the object is present, but are incapable (probably in consequence of some early habit of inattention) to conceive the sensation distinctly when the object is removed. Without this power of conception it is evidently impossible for them, however lively their sensations may be, to give a name to any colour; for the application of the name supposes not only a capacity of receiving the sensation, but a power of comparing it with one formerly felt. At the same time, I would not be understood by these observations to deny that there are cases, in which there is a natural defect of the organ in the perception of colour. In some cases, perhaps, the sensation is not felt at all, and in others, the faintness of the sensation may be one cause of those habits of inattention from which the incapacity of conception has arisen.

A talent for lively description, at least in the case of sensible objects, depends chiefly on the degree in which the describer possesses the power of conception. We may remark, even in common conversation, a striking difference among individuals in this respect. One man, in attempting to convey a notion of any object he has seen, seems to place it before him, and to paint from actual perception; another, although not deficient in a ready elocution, finds himself in such a situation confused and embarrassed among a number of particulars imperfectly apprehended, which crowd into his mind without any just order and connexion. Nor is it merely to the accuracy of our descriptions that this power is subservient; it contributes more than anything else to render them striking and expressive to others, by guiding us to a selection of such circumstances as are most prominent and characteristical, insomuch that I think it may reasonably be doubted if a person would not write a happier description of an object from the conception than from the actual perception of it. It has been often remarked, that the perfection of description does not consist in a minute specification of circumstances, but in a judicious selection of them, and that the best rule for making the selection, is to attend to the particulars that make the deepest impression on our own minds. When the object is actually before us, it is extremely difficult to compare the impressions which different circumstances produce, and the very thought of writing a description would prevent the impressions which would otherwise take place. When we afterwards conceive the object, the representation of it we form to ourselves, however lively, is merely an outline, and is made up of those circumstances which really struck us most at the moment, while others of less importance are obliterated. The impression, indeed, which a circumstance makes on the mind, will vary considerably with the degree of a person's taste, but I am inclined to think that a man of lively conceptions who paints from these, while his mind is yet warm from the original scene, can hardly fail to succeed in descriptive composition.

The facts and observations which I have now mentioned, are applicable to conception as distinguished from imagination. The two powers, however, are very nearly allied, and are frequently so blended, that it is difficult to say to which of the two some particular operations of the mind are to be referred. There are also many general facts which hold equally with respect to both. The observations which follow, if they are well founded, are of this number, and might have been introduced with equal propriety under either article. I mention them here, as I shall have occasion to refer to them in the course of the following work, in treating of some subjects which will naturally occur to our examination before we have another opportunity of considering this part of our constitution.

It is a common, I believe I may say a universal doctrine among logicians, that conception (or imagination, which is often used as synonymous with it) is attended with no belief of the existence of its object. "Perception," says Dr. Reid, "is attended with a belief of the present existence of its object, memory with a belief of its past existence, but imagination is attended with no belief at all, and was therefore called by the schoolmen *apprehensio simplex.*"

It is with great diffidence that I presume to call in question a principle which has been so generally received, yet there are several circumstances which lead me to doubt of it. If it were a specifical distinction between perception and imagination, that the former is always attended with belief, and the latter with none; then the more lively our imagination were of any object, and the more completely that object occupied the attention, the less would we be apt to believe its existence; for it is reasonable to think, that when any of our powers is employed separately from the rest, and there is nothing to withdraw the attention from it, the laws which regulate its operation will be most obvious to our observation, and will be most completely discriminated from those which are characteristical of the other powers of the mind. So very different, however, is the fact, that it is matter of common remark, that when imagination is very lively, we are apt to ascribe to its objects a real existence, as in the case of dreaming or of madness; and we may add, in the case of those who, in spite of their own general belief of the absurdity of the vulgar stories of apparitions, dare not trust themselves alone with their own imaginations in the dark. That imagination is in these instances attended with belief, we have all the evidence that the nature of the thing admits of; for we feel and act in the same manner as we should do if we believed that the objects of our attention were real; which is the only proof that metaphysicians produce, or can produce, of the belief which accompanies perception.

In these cases, the fact that I wish to establish is so striking, that it has never been called in question; but in most cases, the impression which the objects of imagination make on the mind is so momentary, and is so immediately corrected by the surrounding objects of perception, that it has not time to influence our conduct. Hence we are apt to conclude, on a superficial view, that imagination is attended with no belief; and the conclusion is surely just in most cases, if by belief we mean a permanent conviction which influences our conduct. But if the word be used in the strict logical sense, I am inclined to think, after the most careful attention to what I experience in myself, that the exercise both of conception and imagination is always accompanied with a belief that their objects exist.[1]

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[1] As the foregoing reasoning, though satisfactory to myself, has not appeared equally so to some of my friends, I should wish the reader to consider the remarks which I now offer, as amounting rather to a query than to a decided opinion.

May I take the liberty of adding, that one of the arguments which I have stated in opposition to the common doctrine concerning imagination, appears to me to be authorized, in some measure, by the following reasoning of Dr. Reid on a different subject? In con-

When a painter conceives the face and figure of an absent friend, in order to draw his picture, he believes for the moment that his friend is before him. The belief, indeed, is only momentary; for it is extremely difficult, in our waking hours, to keep up a steady and undivided attention to any object we conceive or imagine; and as soon as the conception or the imagination is over, the belief which attended it is at an end. We find that we can recall and dismiss the objects of these powers at pleasure, and therefore we learn to consider them as creations of the mind, which have no separate and independent existence.[1]

sidering those sudden bursts of passion which lead us to wreak our vengeance upon inanimate objects, he endeavours to shew that we have, in such cases, a momentary belief that the object is alive. "I confess," says he, "it seems to be impossible that there should be resentment against a thing which, at that very moment, is considered as inanimate, and consequently incapable either of intending hurt or of being punished. There must therefore, I conceive, be some momentary notion or conception that the object of our resentment is capable of punishment."—[*Essays on the Active Powers*, p. 175.—*Works*, p. 509.]

In another passage the same author remarks, that "men may be governed, in their practice, by a belief which, in speculation, they reject." . . .

"I knew a man (says he) who was as much convinced as any man of the folly of the popular belief of apparitions in the dark; yet he could not sleep in a room alone, nor go alone into a room in the dark. Can it be said, that his fear did not imply a belief of danger? This is impossible. Yet his philosophy convinced him, that he was in no more danger in the dark when alone than with company. Here an unreasonable belief, which was merely a prejudice of the nursery, stuck so fast as to govern his conduct, in opposition to his speculative belief as a philosopher and a man of sense.

"There are few persons who can look down from the battlement of a very high tower without fear, while their reason convinces them that they are in no more danger than when standing upon the ground."—[Ibid. p. 317.—*Works*, p. 618.]

These facts are easily explicable on the supposition, that whenever the objects of imagination engross the attention wholly, (which they may do in opposition to any speculative opinion with respect to their non-existence,) they produce a temporary belief of their reality. Indeed, in the last passage Dr. Reid seems to admit this to be the case; for to say that a man who has a dread of apparitions, believes himself to be in danger when left alone in the dark, is to say in other words, that he believes (for the time) that the objects of his imagination are real.

[1] [It was with some satisfaction I observed, twenty years after the first publication of this volume, the following sentences in one of the numbers of an excellent literary journal, not commonly over-partial to my opinions. "Strong conception is, perhaps, in every case attended with a temporary belief of the reality of its objects. . . . The feeling, we believe, is often very momentary; and it is this which has misled those who have doubted of its existence."—See the *Edinburgh Review* of Baron Grimm's Literary Correspondence, in the Number for July, 1813.]

The compatibility of such a speculative disbelief, as I have here supposed, of the existence of an object, with a contrary momentary belief, may perhaps be more readily admitted, if the following experiment be considered with attention.

Suppose a lighted candle to be so placed before a concave mirror, that the image of the flame may be seen between the mirror and the eye of the observer. In this case, a person who is acquainted with the principles of optics, or who has seen the experiment made before, has so strong a speculative conviction of the non-existence of the object in that place where he sees its image, that he would not hesitate to put his finger to the apparent flame, without any apprehension of injury.

Suppose, however, that in such a case it were possible for the observer to banish completely from his thoughts all the circumstances of the experiment, and to confine his attention wholly to his perception, would he not believe the image to be a reality; and would he not expect the same consequences from touching it, as from touching a real body in a state of inflammation? If these questions be answered in the affirmative, it will follow, that the effect of the perception, while it engages the attention completely to itself, is to produce belief; and that the speculative disbelief, according to which our conduct in ordinary cases is regulated, is the result of a recollection of the various circumstances with which the experiment is accompanied.

If, in such a case as I have now supposed, the appearance exhibited to us is of such a nature as to threaten us with any immediate danger, the effect is the same as if we were to banish from our thoughts the circumstances of the experiment, and to limit our attention solely to what we perceive; for here the belief, which is the first effect of the perception, alarms our fears and influences our conduct before reflection has time to operate. In a very ingenious optical deception which was lately exhibited in this city, the image of a flower was presented to the spectator; and when he was about to lay hold of it with his hand, a stroke was aimed at him by the image of a dagger. If a person who has seen this experiment is asked, in his cooler moments, whether or not he believes the dagger which he saw to be real, he will readily answer in the negative; and yet the accurate statement of the fact undoubtedly is, that the first and the proper effect of the perception is belief; and that the disbelief he feels is the effect of subsequent reflection.

The speculative disbelief which we feel with respect to the illusions of imagination, I conceive to be analogous to our speculative disbelief of the existence of the object exhibited to the eye in this optical deception; as our belief that the illusions of imagination are real, while that faculty occupies the mind exclusively, is analogous to the belief produced by the optical deception while the attention is limited to our perception, and is withdrawn from the circumstances in which the experiment is made.[1]

These observations lead me to take notice of a circumstance with respect to the belief accompanying perception, which it appears to me necessary to state in order to render Dr. Reid's doctrine on that subject completely satisfactory. He has shewn that certain sensations are, by a law of our nature, accompanied with an irresistible belief of the existence of certain qualities of external objects. But this law extends no farther than to the present existence of the quality; that is, to its existence while we feel the corresponding sensation. Whence is it, then, that we ascribe to the quality an existence independent of our perception? I apprehend we learn to do this by experience alone. We find that we cannot, as in the case of imagination, dismiss or recall the perception of an external object. If I open my eyes, I cannot prevent myself from seeing the prospect which is before me. I learn, therefore, to ascribe to the object of my senses, not only an existence at the time I perceive them, but an independent and a permanent existence.

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[1] It may appear to some readers rather trifling to add, and yet to others the remark may not be altogether superfluous, that it is not my intention to insinuate by the foregoing illustrations, that the relation between perception and imagination has the most distant analogy to that between the perception of the object, and the perception of its optical image.

It is a strong confirmation of this doctrine, that in sleep, when (as I shall endeavour afterwards to shew) the influence of the will over the train of our thoughts is suspended, and when of consequence the time of their continuance in the mind is not regulated by us, we ascribe to the objects of imagination an independent and permanent existence, as we do when awake to the objects of perception. The same thing happens in those kinds of madness in which a particular idea takes possession of the attention, and occupies it to the exclusion of everything else. Indeed madness seems in many cases to arise entirely from a suspension of the influence of the will over the succession of our thoughts, in consequence of which the objects of imagination appear to have an existence independent of our volition, and are therefore, agreeably to the foregoing doctrine, mistaken for realities.

Numberless other illustrations of the same general fact occur to me; but the following is, I think, one of the most striking. I mention it in preference to the rest, as it appears to me to connect the doctrine in question with some principles which are now universally admitted among philosophers.

The distinction between the original and the acquired perceptions of sight, is familiarly known to every one who has the slightest acquaintance with the elements of optics. That this sense, prior to experience, conveys to us the notion of extension in two dimensions only, and that it gives us no information concerning the distances at which objects are placed from the eye, are propositions which nobody, I presume, in the present state of science, will be disposed to controvert. In what manner we are enabled, by a comparison between the perceptions of sight and those of touch, to extend the province of the former sense to a variety of qualities originally perceived by the latter sense only, optical writers have explained at great length; but it is not necessary for my present purpose to enter into any particular details with respect to their reasonings on the subject. It is sufficient for me to remark, that according to the received doctrine, the original perceptions of sight become, in consequence of experience, signs of the tangible qualities of external objects, and of the distances at which they are placed from the organ; and that although the knowledge we obtain in this manner of these qualities and distances seems, from early and constant habits, to be an instantaneous perception, yet in many cases it implies an exercise of the judgment, being founded on a comparison of a variety of different circumstances.

From these principles it is an obvious consequence, that the knowledge we obtain by the eye of the tangible qualities of bodies, involves the exercise of conception, according to the definition of that power which has already been given. In ordinary discourse, indeed, we ascribe this knowledge, on account of the instantaneousness with which it is obtained, to the power of perception; but if the common doctrine on the subject be just, it is the result of a complex operation of the mind; comprehending first the perception of those qualities which are the proper and original objects of sight; and secondly, the conception of those tangible qualities of which the original perceptions of sight are found from experience to be the signs. The notions, therefore, we form by means of the eye of the tangible qualities of bodies, and of the distances of these objects from the organ, are mere conceptions, strongly and indeed indissolubly associated by early and constant habit, with the original perceptions of sight.

When we open our eyes on a magnificent prospect, the various distances at which all its different parts are placed from the eye, and the immense extent of the whole scene before us, seem to be perceived as immediately and as instantaneously by the mind, as the coloured surface which is painted on the retina. The truth, however, unquestionably is, that this variety of distance, and this immensity of extent, are not objects of sense but of conception, and the notions we form of them when our eyes are open, differ from those we should form of them with our eyes shut, only in this, that they are kept steadily in the view of the mind, by being strongly associated with the sensations of colour, and with the original perceptions of sight. This observation will be the more readily admitted if it be considered, that, by a skilful imitation of a natural landscape in a common show-box, the mind may be led to form the same notions of variety of distance, and even of immense extent, as if the original scene were presented to our senses; and that, although in this case we have a speculative conviction that the sphere of our vision only extends to a few inches, yet so strong is the association between the original perceptions of sight, and the conceptions which they habitually produce, that it is not possible for us by any effort of our will to prevent these conceptions from taking place.

From these observations it appears, that when the conceptions of the mind are rendered steady and permanent, by being strongly associated with any sensible impression, they command our belief no less than our actual perceptions; and, therefore, if it were possible for us with our eyes shut, to keep up for a length of time the conception of any sensible object, we should, as long as this effort continued, believe that the object was present to our senses.

It appears to me to be no slight confirmation of these remarks, that although in the dark the illusions of imagination are much more liable to be mistaken for realities, than when their momentary effects on the belief are continually checked and corrected by the objects which the light of day presents to our perceptions; yet, even total darkness is not so alarming to a person impressed with the vulgar stories of apparitions, as a faint and doubtful twilight, which affords to the conceptions an opportunity of fixing and prolonging their existence, by attaching themselves to something which is obscurely exhibited to the eye. In like manner, when we look through a fog, we are frequently apt to mistake a crow for a man, and the conception we have, upon such an occasion, of the human figure, is much more distinct and much more steady than it would be possible for us to form if we had no sensible object before us, insomuch that when, on a more attentive observation, the crow shrinks to its own dimensions, we find it impossible by any effort to conjure up the phantom which a moment before we seemed to perceive.

If these observations are admitted, the effects which exhibitions of fictitious distress produce on the mind, will appear less wonderful than they are supposed to be. During the representation of a tragedy, I acknowledge that we have a general conviction that the whole is a fiction; but I believe it will be found, that the violent emotions which are sometimes produced by the distresses of the stage, take their rise in most cases from a momentary belief that the distresses are real. I say in most cases, because I acknowledge that independently of any such belief, there is something contagious in a faithful expression of any of the passions.

The emotions produced by tragedy are, upon this supposition, somewhat analogous to the dread we feel when we look down from the battlement of a tower.[1] In both cases, we have

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[1] With respect to the dread which we feel in looking down from the battlement of a tower, it is curious to remark the effects of habit in gradually destroying it. The manner in which habit operates in this case, seems to be by giving us a command over our thoughts, so as to enable us to withdraw our attention from the precipice before us, and direct it to any other object at pleasure. It is thus that the mason and the sailor not only can take precautions for their own safety, but remain completely masters of themselves in situations where other men, engrossed with their imaginary danger, would experience a total suspension of their faculties. Any strong passion which occupies the mind produces, for the moment, the same effect with habit. A person alarmed with the apprehension of fire, has been known to escape from the top of a house by a path, which, at another time, he would have considered as impracticable; and soldiers in mounting a breach, are said to have sometimes found their way to the enemy, by a route which appeared inaccessible after their violent passions had subsided.

[From the principles which I have endeavoured to establish in this chapter, may be derived a simple, and I think a satisfactory explanation of the manner in which superstition, considered in contradistinction to genuine religion, operates on the mind. The gloomy phantoms which she presents to her victims in their early infancy, and which consist chiefly of images or representations of spectres and demons, and of invisible scenes of horror, produce their effect *not* through the medium of reasoning and judgment, but of the powers of conception and imagination. No argument is alleged to prove their existence, but strong and lively notions of them are conveyed, and, in proportion as this is done, the belief of them becomes steady and habitual. It is even sufficient in many cases to resist all the force of argument to the contrary, or, if it yields to it during the bustle of business and the light of day, its influence returns in the hours of solitude and darkness. When the mind, too, is weakened by disease, or the infirmities of age, and when the attention ceases to be occupied with external objects, a general conviction that there is no ground for the feelings we experience, but the momentary influences of imagination are so powerful as to produce these feelings before reflection has time to come to our relief.

the thoughts are apt to revert to their first channel, and to dwell on the conceptions to which they were accustomed in the nursery. "Let custom," says Locke, "from the very childhood, have joined figure and shape to the idea of God, and what absurdities will that mind be liable to about Deity!" (Vol. ii. p. 144.)—[*Essay*, Book ii. ch. xxxiii. sect. 17.] A person of a lively but somewhat gloomy imagination once acknowledged to me, that he could trace some of his superstitious impressions with respect to the Deity, to the stern aspect of a judge whom he had seen, when a school-boy, pronounce sentence of death upon a criminal. Hence it would appear that he who has the power of modelling the habitual conceptions of an infant mind, is, in a great measure, the arbiter of its future happiness or misery. By guarding against the spectres conjured up by superstitious weakness, and presenting to it only images of what is good, lovely, and happy, he may secure through life a perpetual sunshine to the soul, and may perhaps make some provision against the physical evils to which humanity is exposed. Even in those awful diseases which disturb the exercise of reason, I am apt to think that the complexion of *madness*, in point of gaiety or of despondency, depends much on the nature of our first conceptions; and it would surely be no inconsiderable addition to the comfort of any individual to know, that some provision had been made by the tender care of his first instructors, to lighten the pressure of this greatest of all earthly calamities, if it ever should be his lot to bear it. In truth, the only effectual antidote against superstitious weaknesses, is to inspire the mind with just and elevated notions of the administration of the universe; for, we may rest assured, that religion, in one form or another, is the natural and spontaneous growth of man's intellectual and moral constitution; and the only question in the case of individuals is, whether, under the regulation of an enlightened understanding, it is to prove the best solace of life and the surest support of virtue; or to be converted by the influence of prejudices and a diseased imagination, into a source of imbecility, inconsistency, and suffering?

"How happy," says Dr. Reid, "is that mind, in which the belief and reverence of a perfect all-governing mind casts out all fear, but the fear of acting wrong. In which serenity and cheerfulness, innocence, humanity, and candour, guard the imagination against the entrance of every unhallowed intruder. and invite more amiable and worthier guests to dwell!

"There shall the muses, the graces, and the virtues, fix their abode, for everything that is great and worthy in human conduct must have been conceived in the imagination before it was brought into act. And many great and good designs have been formed there, which, for want of power and opportunity, have proved abortive.

"The man whose imagination is occupied by these guests must be wise, he must be good, and he must be happy." —*Essays on the Intellectual Powers of Man*, p. 430, 4to edit.]